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Original Articles

OBSERVATIONS ON INFANT FEEDING, WITH REPORT OF CASES.*

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The question of substitute infant feeding is an ever important one. Much progress has been made in the subject during the last decade, and certain principles laid down and insisted on by Rotch are now well known and accepted, e. g., good breast milk is the ideal food for infants during their first year; if breast milk is impossible, feed accurate percentages of fat, proteids and sugar, feed individuals, not groups, etc. These principles need no further comment. They are universally accepted. Their application, however, is often difficult, and in practice we are constantly meeting with infants, the management of whose diet is puzzling and unsatisfactory.

The whole subject has now been crystallized into a study of the fats, sugars and proteids, and the effects of feeding definite amounts of these elements. Obviously, such study has been made possible only by the method of percentage feeding, which has been gradually evolved and brought to its present high state of perfection by Rotch. Many infants have now been fed along these lines, definite amounts of the above elements prescribed, and the results carefully noted. While our knowledge of fat indigestion, sugar indigestion and proteid indigestion has thus been greatly increased, it is still far from accurate, comparatively few cases having been reported in detail.

The basis of all infants' foods at present is cow's milk, and for a clear understanding of the subject we must remember the complex character of this article. Milk is not a simple food, it is a very complex food, combining in various amounts water, fat, proteids, sugar and mineral matter. It is manifestly as inaccurate and indefinite, therefore, to say "milk" whole or modified does not agree with the baby, as it would be to say "food" does not agree with the adult. Physicians who deal with digestive disturbances in the latter class of people, ask the patient how much meat he is taking, how much carbohydrates, how much alcohol, etc. Similarly with the baby, we ask how much fat he is getting, how much sugar, and how much proteid; in other words, we ask whether he is suffering from fat indigestion, sugar indigestion or proteid indigestion. As to treatment, we work at a great advantage in being able to grade these elements to a fraction of 1 per cent., and also in our absolute control of our patient.

* Read at a meeting of the Chicago Medical Society.

FORMS OF INDIGESTION.

Now what are the symptoms of these various forms of indigestion? The inaccurate state of our knowledge in this direction has already been mentioned. In a general way, however, it may be summarized briefly as follows:

Fat Indigestion.—Disturbances from an excess of this element are more common than has been generally supposed. Too much fat is apt to cause vomiting soon after feeding, distaste for food, and diarrhea with loose, yellow or greenish-yellow stools containing an excess of fat often regarded as curds. Constipation, however, is frequent, and here the stools are hard and light colored. Holt, at the last meeting of the American Pediatric Society, reported several cases of fat indigestion in which some infants fed an a high per cent. of fat for a long time, were apparently perfectly well, but suddenly were attacked with severe nervous symptoms, convulsions, tetany, laryngismus stridulus, and enlarged liver. In other cases, the infants became very constipated and developed rickets, and eczema. Improvement followed in all on cutting the fat very low, to 2 per cent., and then increasing to about 3 per cent.

In the discussion, vomiting and constipation were especially emphasized as symptoms of fat indigestion.

Lack of fat in the diet results in slow gain or in actual loss of weight, generally in constipation, and, if long continued, in decided malnutrition, generally of the rhachitic variety. Rickets in its early stages is a species of fat starvation. Hence the frequency of this trouble among babies fed on the different proprietary foods, improperly modified milk, or a breast milk deficient in fat.

The apparent paradox of rickets arising from both a deficiency and an excess of fat in the diet is undoubtedly due to the fact that with an excess so much intestinal disturbance is produced, that only a small amount of fat is actually absorbed, while a large amount is found in the stools. Hence, the baby really has for purposes of nutrition a deficiency of the element.

Sugar Indigestion.—Disturbances from this element are less frequent than either of the other forms of indigestion, on account of the high sugar-digesting capacity of most infants. The maintenance of bodily heat is a most important matter for the well-being of infants; hence, nature provides for them in their natural food a comparatively large amount of sugar and a corresponding digestive power. Nevertheless, disturbances from an excess of this substance in the diet occasionally arise in infants with an apparently limited sugar-digesting capacity, such disturbances being characterized by tympanites, "wind colic," with severe pain and crying, relieved by the belching of wind and passage of wind by rectum. These infants are apt to have greenish, sour or acid bowel movements. Most of the proprietary foods contain an excess of sugar, and infants fed on them do gain in weight for a time, but are soft and flabby, are

not strong and have little resisting power. The only well-defined results of a deficiency of sugar is failure to gain in weight.

Proteid Indigestion.—It is this element which gives infants the most trouble in digestion, and by far the great majority of cases of difficult feeding are cases of proteid indigestion, arising from an excess of this element. The symptoms are, perhaps, more sharply defined than are the symptoms of the other forms of indigestion. There are severe colic, foul smelling stools, with large curds and often mucus; the putrid character of the bowel movements is particularly characteristic of proteid decomposition and indigestion. Infants fed on a diet deficient in proteids are apt to be anemic, to gain slowly in weight, are soft and flabby, and later their digestive powers are decidedly impaired.

The difficulty which infants experience in digesting the proteids in cow's milk is probably due, not so much

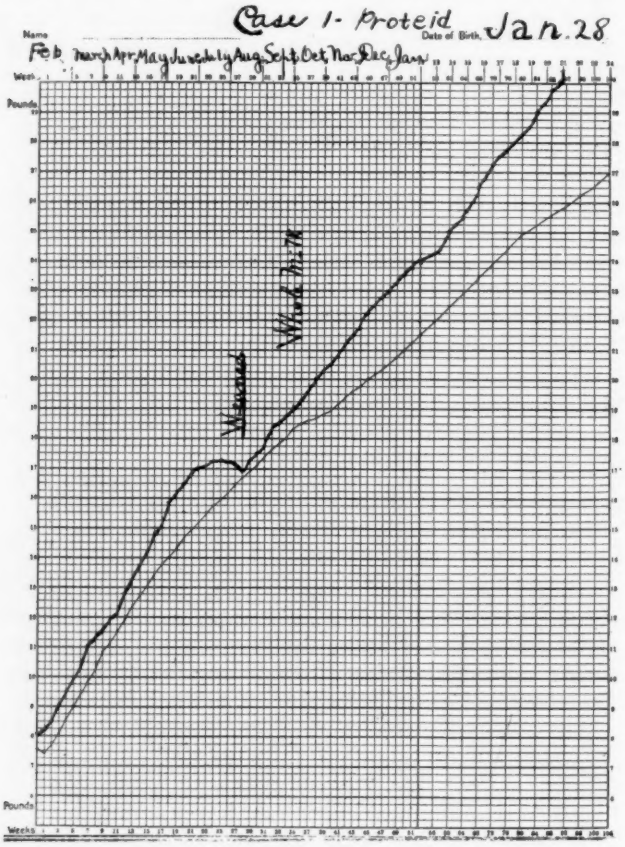

Chart 1.—Case 1. Note the steadily rapid gain in weight up to the fourth month, the gradual falling off and loss up to the sixth month, then the immediate and rapid gain on being weaned and put on modified milk. It may be taken as a standard chart.

to the greater total amount of this element in cow's milk as compared with human milk, as to its different composition. Analysis shows the following differences between the proteids of the two milks:

	Cow (per cent.).	Human (per cent.).
Caseinogen	2.88	0.59
Lactalbumin	0.52	1.25
Total	3.41	1.84

The difference in the total proteids needs no comment; it is well understood. It is the relative proportion of the two substances, making up the total which is of importance. While in human milk the proportion of caseinogen to lactalbumin is about 1 to 2.5, in cow's milk, on the other hand, the proportion is about 5 to 1. In other words, the human infant is provided in its natural food with a relatively large amount of lactalbumin, but a relatively small amount of caseinogen. The former is easy to digest, the latter is difficult, and it is the presence of caseinogen in such relatively large amounts which causes so much trouble to infants fed on improperly modified cow's milk.

Further consideration shows why the problem is not solved by merely adding water to milk. When cow's milk is diluted with an equal amount of water, the usual household way practiced by mothers, all elements are cut in two, the total proteids being reduced to 2 per cent., the caseinogen to 1.4 per cent., and the lactalbumin to 0.26 per cent. Thus, while the total proteids are brought down within the possible limits of digestive power, the caseinogen is brought down to 1.4 per cent., when the infant's normal digestive power for this substance is only 0.59 per cent. Finally, by such dilution he receives only .25 per cent. of lactalbumin, or about 1/5

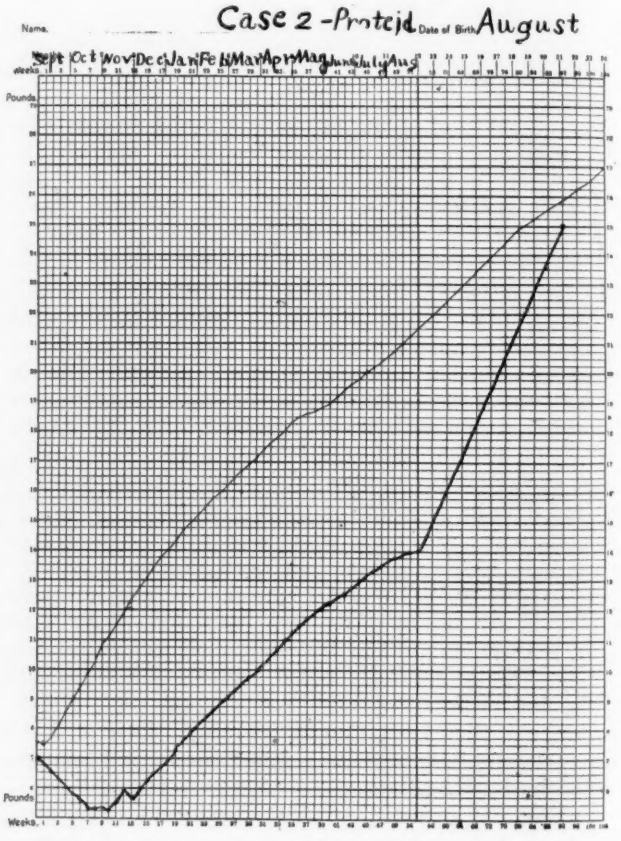

Chart 2.—Case 2. Note the steady loss in weight during the first seven weeks, due to faulty feeding, then the check in the loss of weight during the next four weeks, and finally the steady gain when she was put on first whey and ultimately whey-cream mixtures. It took two years, however, for this child to catch up to the normal weight.

as much as he is capable of assimilating, and to this extent he is deprived of a material necessary for his normal nutrition.

Some method other than the addition of water must be practiced in the management of this troublesome element. It must be either cut down to a very small amount or eliminated from the diet altogether. In extremely severe cases of mal-nutrition, at the beginning of treatment it must be eliminated altogether. At the same time, if possible, the lactalbumin must be retained. Now this two-fold object, the elimination of caseinogen and the retention of lactalbumin is attained by simply feeding whey.

The analysis of whey shows the following:

	Per cent.
Lactalbumin	0.8- 1.00
Fat	.32
Sugar	4.79
Salts	0.65
Water	93.38

We have here, then, an article of diet free from caseinogen, yet containing nearly the same amount of lactalbumin found in breast milk, a low percentage of sugar, and a small amount of fat. There are few infants who can not digest this simple article. They may be started on whey, kept on it for a time, and then, depending on their progress, the fat and sugar may be increased by the addition of cream and milk sugar in definite amounts; caseinogen in the form of fat-free milk may be added, and thus the infant may be gradually worked up to a sufficiently nutritious and easily digested food.

The value of whey in the feeding of infants has been known for a long time, but the true reason for its value was first pointed out by Westcott, and was the natural outgrowth of his study of Roth's percentage method of feeding. His work has resulted in an intelligent and accurate method of handling the indigestible proteids of cow's milk. We are now enabled to "split" the total proteids, feed lactalbumin and caseinogen in definite percentages and in the proportion found in breast-milk, and thus to maintain a proper amount of total proteids. This can be carried out by home modification, but is done more accurately at the laboratory. It marks a distinct and important step in advance in methods of infant feeding.

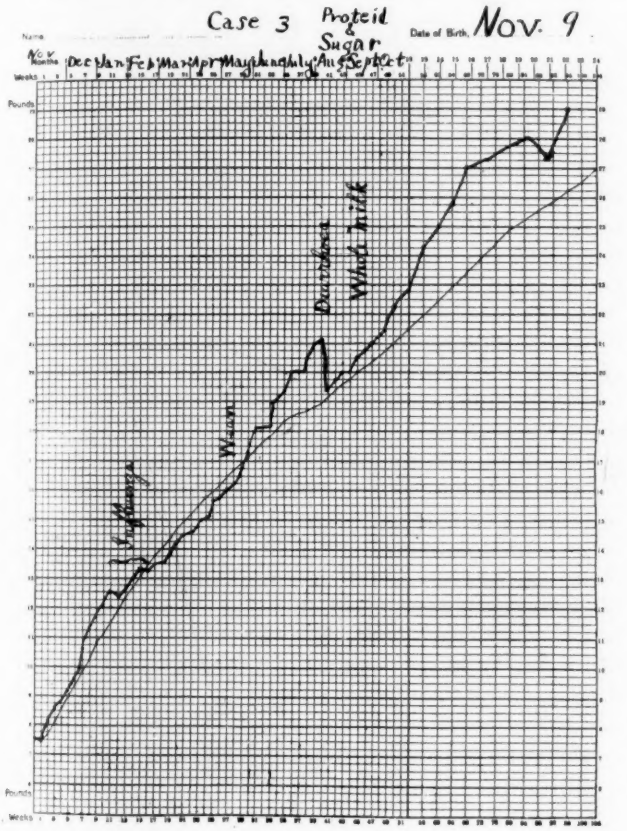

Chart 3.—Case 3. Note the steady gain for the first three months, then the slower rate of gain due to an attack of influenza, the more rapid gain on being weaned, the sharp drop in weight during an attack of summer diarrhea, with, however, a quick recovery and rapid strides during the second year. During his first year he had trouble, first with proteids and later with sugar.

The management of fats and of sugar gives much less trouble than that of proteids. They can be readily increased or diminished by varying the amounts of cream and sugar.

The symptoms described above and the principles of management involved can best be illustrated by reports of cases.

CASE 1.—This boy is an example of a vigorous child who got a good start on breast-milk. The chart shows the satisfactory gain in weight during his first four months, then the lessening rate of increase, the standing still for three weeks, and, finally, the actually steady loss for three weeks during his seventh month. At this time, though it was midsummer, it seemed wiser to wean him before serious nutritional troubles developed, as all attempts to improve the breast-milk during the preceding two months had failed. The baby was, therefore, given daily two bottles containing 6 ounces each of modified milk; fat, 3 per cent.; sugar, 6 per cent.; proteids, 1.25 per cent. He at once began to gain, but had severe colic and curds in the

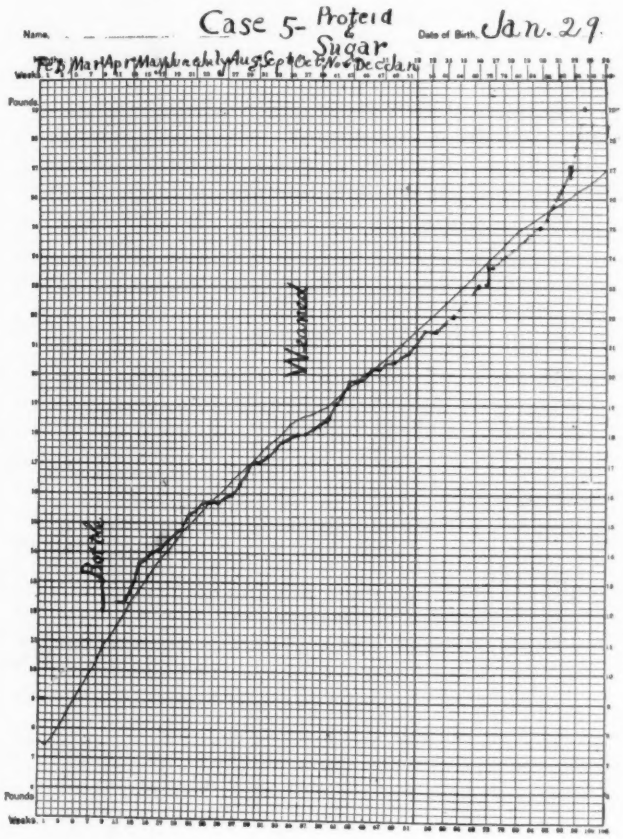

Chart 4.—Case 5. The curve runs closely parallel to that of the average, but below it, owing to the limited proteid and sugar-digesting capacity of the infant. This was a vigorous child and her weight curve ought to have been above the average.

stools. Evidently 1.25 per cent. of proteids was too high for him. They were reduced to 0.75, which agreed with him perfectly, and on this he was kept for ten days, when they were increased to 1 per cent., the number of bottles being rapidly increased to six daily. The proteids were gradually increased 0.25 per cent. at a time until at eight months he was taking whole milk. The fats and sugars he bore well, the former being started at 3 per cent. and gradually raised within a month to 4 per cent., the latter starting at 6 per cent. and raised to the maximum of 7 per cent. within three days. Aside from the slight proteid indigestion of the first three days he did well, rounding out his year at 24 pounds. The case was a simple one, presented no difficulties in its management, and is reported merely as a normal or "standard" case (Chart 1).

CASE 2.—This girl, referred to me by Dr. R. H. Babcock, was a difficult case. She was healthy at birth, weighing seven

pounds, was nursed for three weeks, then fed for three weeks more on mixtures of either milk and water, or milk and barley water. During all this time she had much colic, foul, green, curdy movements, slept but little, was restless and fretful and lost steadily in weight.

Examination.—I first saw her when she was six weeks old, and her condition then was pitiable, indeed. The emaciation was extreme, the color bluish and livid, the face had a constant expression of pain and discomfort, the abdomen was distended and tympanitic, and the extremities cold—a typical picture of severe infantile atrophy. The blood showed Hb. 70 per cent., erythrocytes 4,384,000, leucocytes 6,000. The weight was 5 pounds six ounces.

TABLE I—CASE 2.

Date.	Age.	Feeding.	Result.	Weight.
				lbs. oz.
Oct. 2..	6 wks.	F. 2.5%, S. 5.5%, P. 0.5%.....	Hungry, dejecta green, curds, wind.	5— 6
Oct. 5..	.....	F. 3, S. 5.5, P. 0.5, 3 oz.....	Same.....	5— 4
Oct. 7..	.....	F. 3, S. 4.5, P. 0.5, 3 oz.....	Dejecta yellow, wind.	
Oct. 10.	7 wks.	F. 3, S. 3.5, P. 0.5, 3 oz.....	Better, less wind.	5— 5
Oct. 13.	.....	F. 3, S. 3.5, P. 0.5, 3 oz.....	Better, but more wind.	
Oct. 14.	.....	F. 3, S. 2.5, P. 0.5, 3 oz.....	Hungry, less wind, curds.	5— 5
Oct. 17.	8 wks.	F. 3, S. 2.5, P. 0.75, 3 oz.....	Occasional vomiting, little gas.	5— 6
Oct. 19.	.....	F. 2.5, S. 2.5, P. 0.75, 3 oz.....	Much better, hungry.	
Oct. 23.	9 wks.	F. 2.5, S. 2.5, P. 0.75, 4 oz...	Colic—green stools.	5— 4
Oct 27.	.....	F. 2.5, S. 2.5, P. 0.75, 4 oz. Barley water, 1 dram.	Colic—green stools.	5— 4
Oct. 29.	10 wks.	*F. 0.3, S. 4. L. 0.8. (Whey, 2 oz. Lime water, ½ oz.)	Better.	
Nov. 3.	.....	F. 0.8, S. 4.5. Total prot. 1.02 { L. .88 C. .14 (Whey, 17 oz. Cream, 1 oz.)	Doing well	5—15
Nov. 9.	12 wks.	.....	Dejecta normal.	5—10½
Nov. 13	.....	F. 1.7, S. 4.6. Total prot. 1.27 { L. .97 C. .3 (Whey, 17 oz. Cream, 2 oz.)	Hungry.	
Nov. 16	13 wks.	.....	Hungry, dejecta normal.	6— 0
Nov. 23	14 wks.	F. 2.8, S. 4.7. Total prot. 1.35 { L. .85 C. .53 (Whey, 17 oz. Cream, 3 oz.)		
Nov. 28	.....	.....	Little vomiting, but generally better.	6— 6
Dec. 2.	15 wks.	F. 1.7, S. 4.6. Total prot. 1.27 { L. .97 C. .3 (Whey, 17 oz. Cream, 2 oz.)	Doing well	6— 7¼
Dec. 7.	16 wks.	.....	.....	6— 9½
Dec. 10	.....	.....	Some curds.	6—12
Dec. 16	17 wks.	F. 2.6, S. 5.5. Total prot. 1.00 { L. .83 C. .17 (Whey, 25½ oz. Cream, 4½ oz. Milk-sugar, 2 teaspoonsful.)	Dejecta numerous but normal.	6—15
Dec. 28	19 wks.	F. 2.8, S. 5.5. Total prot. 1.3 { L. .8 C. .5 (Whey, 26 oz. Cream, 5½ oz. Milk-sugar, 2 teaspoonsful.)	.....	7— 9½
Jan....	.....	.....	.....	7—14½
Jan. 7..	.....	Whey gradually dropped, milk substituted.	Did well...	8— 0
June 10	10 mo..	F. 4, S. 7, P. 3.3.....	.....	12— 0
Oct. 1..	13 mo..	Whole milk.....	.....	15— 0

*Mr. James Cheeseman of The Walker-Gordon Laboratory has kindly verified these formulas.

F., fat; P., proteid; S., sugar; C., caseinogen; L., lactalbumin.

Obviously, the digestive powers in this infant had suffered equally with the rest of the body, and the indications in the management of the case were to feed her small amounts of the three main elements, to begin with low percentages of fat, sugar and proteids, adapted to her extremely limited digestive powers. The management of the feeding, the results of the various formulæ tried, as manifested by the bowel movements and weight, are shown in the accompanying table and weight chart. For four weeks I tried to prepare a modification which would agree with the baby, but unsuccessfully. The downward progress of the weight was checked at once it is true, only two ounces being lost after I took charge, but beyond this no improvement took place. She was then put on a whey mixture, with immediate and marked improvement. Pure whey was fed for nine days, then cream in gradually increasing amounts was added and finally milk sugar. The whey modifications were continued for about three months, milk was then gradually substituted for the whey, and she finally reached whole milk at the age of 13 months.

The immediate effect of feeding whey was striking. While she had stood still at five pounds four ounces for the four weeks preceding, during the first week of her whey feeding she gained eleven ounces. She then lost a little for a week, after which her upward progress was steady, though not rapid. At one year she weighed only fourteen pounds, seven pounds below the average. During her second year she took a sudden start and shot up rapidly, at 21 months weighing twenty-five pounds, less than a pound below normal, and was the picture of health (Chart 2).

As with most cases of severe malnutrition, it was the cow proteids, with its high percentage of caseinogen,

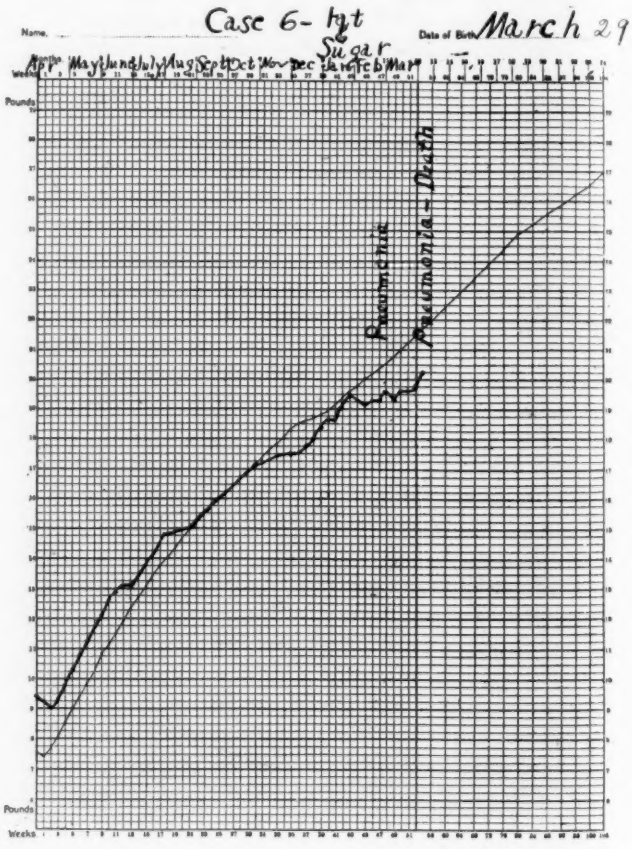

Chart 5.—Case 6. Note the steady gain up to the fourth month, then the slower rate of gain owing to limited fat and sugar-digesting power. Death at one year from pneumonia.

that gave this infant the most trouble. In giving her 0.5 per cent. of this element I gave her lactalbumin 0.08 and caseinogen 0.42 when her capacity for caseinogen was practically nil. By giving her the whey and thus cutting out the caseinogen we removed the greatest obstacle to her progress and at the same time gave her the much-needed lactalbumin. The infant's capacity for digesting sugar did not suffer so much as her power of digesting proteids. The sugar was started at 5.5 per cent., but gradually cut to 2.5 per cent. on account of the formation of gas. My reasoning, however, was obviously incorrect. The gas was evidently due to the proteids and not to the sugar. She had much gas continuously as long as total proteids were fed, even with 2.5 per cent. sugar, whereas when we began to use whey she had no gas, even with the 4.8 per cent. of

sugar contained in whey. This observation emphasizes the opinion that an excessive amount of gas can not always be attributed to sugar alone.

The study of this case taught me much—most of all that it is a mistake to attempt to feed caseinogen too long in our anxiety to give the infant a strongly nutritious food. We shall make more rapid progress by recognizing at the outset that we are asking the impossible in expecting such an infant to digest and to assimilate caseinogen. Rather feed a child at first with food adapted to such powers as it has, and thus help it gradually to develop greater powers for the handling of more difficult foods to be fed later in development.

CASE 3.—This boy, a younger brother of the child in Case 1, was breast-fed for six months. He gained rapidly until about his third month, when he was attacked with a diffuse influenzal bronchitis, as a result of which he at first lost weight, then gained, but more slowly, his curve dropping below the

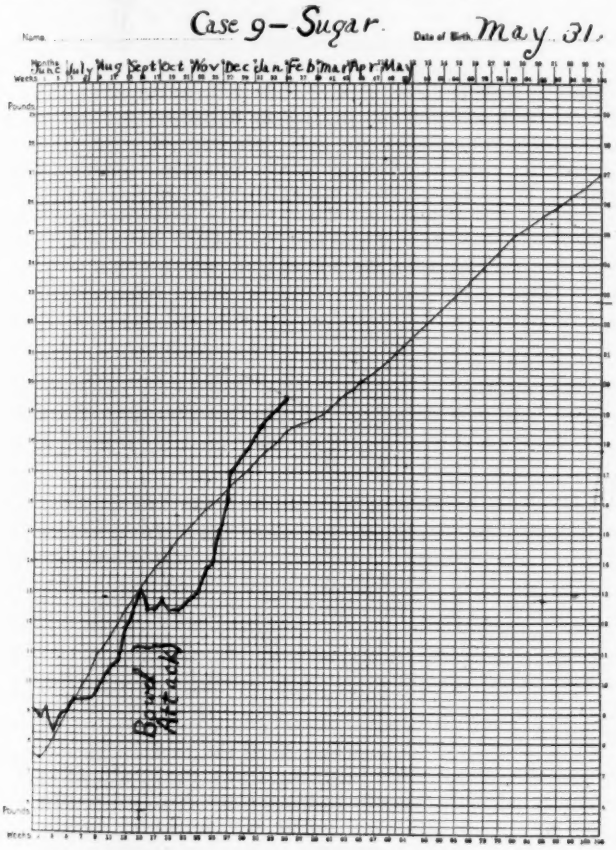

Chart 6.—Case 9. Note the loss of weight during the first three weeks on a poor breast milk, then the slow gain on malted milk or modified milk with too much sugar, the loss in weight from the fifteenth to the twentieth week, due to constant bowel trouble, and finally, beginning with the twenty-first week, the steady rapid gain when fed modified milk containing a small amount of sugar.

average. In May, when he was about 6 months old, I started to wean him, putting him on a mixture prepared at home and averaging F. 2, S. 5, P. 0.75. He was started on these low percentages, as he had been having slight digestive disturbance. During the next few weeks he had some proteid indigestion, characterized by rather foul movements with curds, so that at ten months he could take only 2 per cent. of this element. He also suffered at times with much gas, promptly relieved by cutting the sugar from 6 to 3 per cent. He was kept on this low sugar percentage for two weeks, during which time his weight stood at 18 pounds 2 ounces, though the fat and proteids were 4 and 2.5 per cent., respectively. On increasing the sugar, he again gained steadily until August, when he had a sharp fermental diarrhea and lost weight for a week. His subsequent record was uneventful and he ended his year at 22 pounds 12 ounces in excellent condition (Chart 3).

The slow progress of this case from January to April (third to six month) I attributed to the attack of influenza in January, which weakened the baby considerably. The symptoms of proteid indigestion, curds and foul movements and of sugar indigestion, chiefly gas, were quite sharply defined in this infant and were promptly relieved by reducing the amount of the offending element.

CASE 4.—This girl, weaned at two months, was fed on modified milk and beef juice until six months, when she came into my care, at which time she weighed 13 pounds 3 ounces. This was a difficult case; the child gained only slowly in weight, owing mainly to her low sugar digesting capacity.

I started this baby on F. 2.5, P. 1.7, S. 6; and these figures were increased in a week to 3.5, 2.5 and 6.5, respectively. She bore the fats and proteids well, but had an excessive

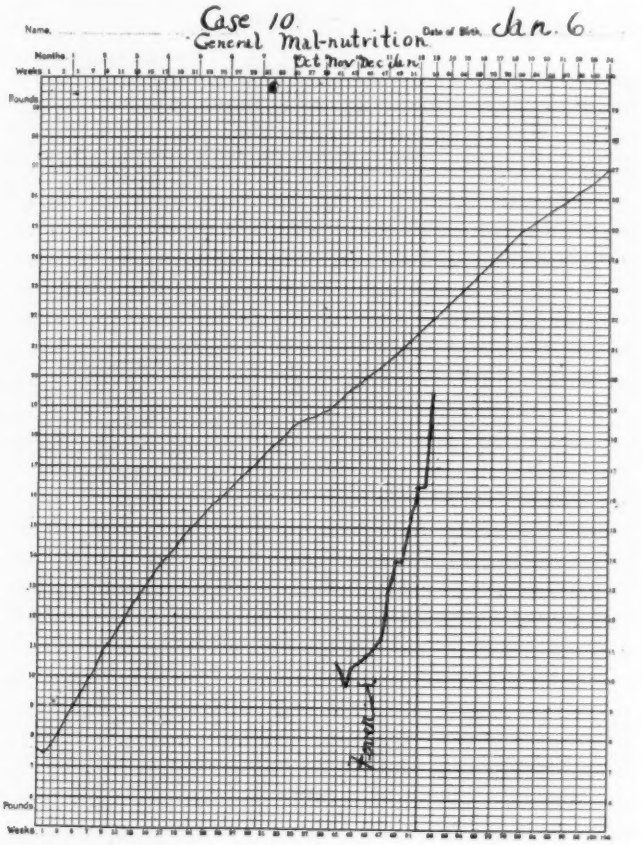

Chart 7.—Case 10. Note the extremely low weight at his tenth month, the loss during the first week of starvation treatment, then the steady upward march when put, first on whey, then whey-cream mixtures.

amount of gas due to the sugar. This element was, therefore, reduced, but not until it was reduced to 3.5 per cent. was she free from wind colic. The sugar was subsequently increased, but she never was able to take more than 5 per cent. She finally reached whole milk at 11 months.

Her weight chart ran exactly parallel to the average curve, but three pounds lower. She is naturally a small child, but her light weight was undoubtedly due in part to the small amount of sugar which she was able to assimilate. She gained more rapidly during her second year, however; at 16 months she weighed 22 pounds and was in excellent physical condition.

CASE 5.—This girl, a vigorous child, is an example of mixed feeding. At two months the mother, who had had much gastrointestinal trouble since the birth of the child, feared her milk was giving out, and certainly on an average of once a day there was no milk in the breasts at feeding time. Analy-

sis of the milk showed fat 3.6 per cent., sugar 6.91 per cent., albumin 0.84 per cent., ash. 0.12 per cent., water 88.53 per cent. The baby was given daily one three-ounce bottle of modified milk, F. 4, S. 7, P. 0.75. The infant was such a vigorous one that I felt sure she could take care of the maximum amount of fat and sugar. The proteids I made a little lower than those in the breast milk. She bore this element well, and in three weeks it had been gradually increased to 1.5 per cent., the fat and sugar being kept at 4 and 7 per cent., respectively. The number and the quantity of artificial feedings were gradually increased until at eight and one-half months she was wholly weaned and was taking six feedings of eight ounces each, the formula being F. 4, S. 6.1, P. 0.5. Repeated attempts had been made to raise the proteids to 1.7 per cent., but each time colic and curds had followed, and at the time of weaning she had been on 1.5 per cent. for several weeks. A short time before weaning she had much gas and the sugar was reduced to 6 per cent. without any apparent improvement, then to 5.5 per cent., immediately after which she was perfectly comfortable.

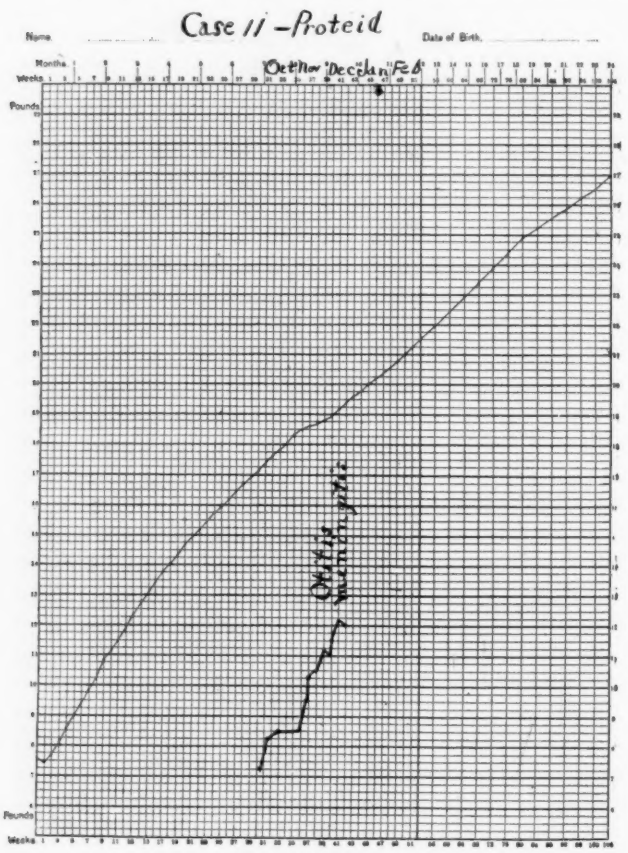

Chart 8.—Case 11. Note the extreme degree of malnutrition, manifested by a weight of 7 pounds at 7 months, the slow gain during the subsequent five weeks, due to his inability to digest caseinogen, then the steady and rapid gain on whey or whey-cream mixtures. Death at ten months from meningitis.

From the ninth to the eleventh month this baby digested her food well and gained in weight, the proteids having been increased to 2.5 per cent. At the eleventh month, however, she again was troubled with gas, and the sugar was cut to 5 per cent., again with good effect immediately. She finally reached whole milk at 12 months. During the first half of her second year she was well, but gained only slowly in weight. At her nineteenth month, however, she took a start and gained rapidly, weighing 29 pounds at 23 months (Chart 4).

This infant's record after her fourth month was only moderately satisfactory. Strong and vigorous at birth with a weight of nine pounds, she should have kept up her pace, instead of which her weight curve gradually drops below the line, runs parallel to it for over a year and does not recross it until she is 20 months old. The record is the more to be criticized, as the artificial feeding was supplemented by breast milk up to her ninth month; for it is well known that modified cow's milk is better borne usually if there are one or two breast feedings during the twenty-four hours. The infant's failure to gain more rapidly in weight was undoubtedly due to her difficulty in digesting, first, the proteids and, later, the sugars. Why such a vigorous child should have been weak in this direction I have no idea. It may have been a manifestation of a family idiosyncrasy. The infant's mother and three older sisters have never been able to eat even a moderate amount of sugar, and a younger sister (Case 6) also had digestive trouble of a similar nature. I think this infant would have been better on a whey-cream mixture, but at that time, 1899, the advantage of splitting cow proteids, thereby feeding a high percentage of whey-proteids and a low amount of caseinogen, had not been pointed out.

CASE 6.—This girl was a younger sister of the child in Case 5. She was a vigorous child at birth and did well on the breast during the first three months, when she was weaned and put on F. 3, S. 4, P. 1.25 and continued to thrive. But intolerance of fat and sugar soon developed and she never got above 3 per cent. of fat and 4 per cent. of sugar. Every attempt to increase either of these elements resulted disastrously. When the fat was raised above 3 per cent. she vomited repeatedly and several times had an urticarial eruption. Increase in sugar above 4 per cent. invariably resulted in wind colic. Most of the time she was taking only 3 to 3.5 per cent. At 11 months she had pneumonia, a mixed infection of the pneumococcus and influenza bacillus, the left lower lobe being affected. She recovered from this, only to be attacked at 13 months by the pneumococcus alone, again in the left lower lobe, and died after ten days. How much part her digestive troubles and lack of proper development played in the final result it is impossible to say, but they probably exerted some unfavorable influence (Chart 5).

This infant's case was the most marked one of fat and sugar intolerance in the series reported. The presence of an urticarial eruption immediately on raising the fat above 3 per cent. occurred repeatedly, too often to be merely a coincidence, and is comparable to a similar phenomenon in certain adults, whenever they eat strawberries, for example. A sugar digesting capacity of from only 3.5 to 4 per cent. is unusual and is particularly interesting in view of the family history.

CASE 7.—This girl is an example of the superiority of wet-nursing to modified cow's milk. She was a small baby at birth, weighing only 6¼ pounds. The mother had practically no breast milk from the start. I first saw her at 12 days, when she was on a mixture prepared by the nurse and analyzing about F. 3.25, S. 4, P. 0.75. She had lost two ounces since birth, had had much colic and slept poorly. I put her on F. 2.50, S. 6, P. 0.75. During the next three weeks the fats were increased to 3 per cent., the sugar kept constant, and the proteids cut to 0.25 per cent. The baby did poorly, however, cried much, had green and yellowish-green movements, and, though she did not lose weight, she made no gain. At five weeks one-ounce feedings of whey were substituted, t. i. d., for the 3-6-0.25 mixture, and she was given one minim of dilute hydrochloric acid after each of the latter feedings. She at once seemed more comfortable, had better bowel movements and began to gain slowly in weight. At the end of ten days she was put on F. 3, S. 6, whey proteids 0.8.

On this mixture the baby had much colic and gas, but gained slowly. Her general condition, however, was poor, the extremities blue and cold, her weight at nine weeks was 6 pounds 15 ounces, a gain of only eleven ounces since birth. Substitute feedings with various modifications of cow's milk had been tried, with most unsatisfactory results. It was, therefore, decided to try a wet-nurse. The baby at once became more satisfied and comfortable and began to gain more

rapidly in weight. During the next three months four different wet-nurses were used. Breast feeding was kept up until the tenth month, but was supplemented by the bottle from the fourth month. She did not reach whole milk until she was 13 months old.

This record was a poor one. It was a mistake to try cow's milk so long. Undoubtedly better progress would have been made had I resorted to wet-nursing earlier. But even with breast feeding, progress was slow. The best results were obtained on mixed feeding—breast and modified cow's milk. In the five weeks during which this method was carried out under my direct supervision the baby gained 2½ pounds, an average of half a pound a week. At the end of this time, in July, the family left the city and did not return until October. No record of the weight was kept during these three months, but it must have been steadily rapid, a striking example of the beneficial results of country life. Late in October the baby again left the city and was in New York two months, gaining slowly. On her return she was weaned and put on modified milk and gained better, though the proteids had to be increased slowly. Although much below weight at 14 months, she was in very good condition and seemed well, happy and contented.

CASE 8.—This girl did only fairly well on the breast for five months, when she was weaned and put on a F. 3, S. 6, P. 0.5 mixture. She at once began to gain rapidly, even through an attack of measles immediately after weaning. Her formula was strengthened at intervals and she reached whole milk at one year. The interesting feature of the case is the rapidity with which the infant gained when she was taken off a poor breast milk and put on modified cow's milk.

CASE 9.—This boy had a limited sugar-digesting capacity. He was weaned at three months, put first on malted milk and then on modified milk. He had much bowel trouble, with curds, mucus and wind colic, the last symptom apparently due to sugar. I first saw this child when he was twenty weeks old, after he had been losing weight for five weeks. His general condition, however, was still excellent. His only weakness seemed to be an intolerance of sugar. He was, therefore, put on a F. 3, S. 2.5, P. 1 mixture. He began to gain immediately and had practically no further trouble. When I first saw him he was 2½ pounds below average. He "crossed the line" in seven weeks. His formula was gradually strengthened, but he never got beyond 3 per cent. of sugar. Every attempt to go beyond this produced much colic. Now, at 8 months, he is getting F. 3.5, S. 3, P. 1.75, weighs 19½ pounds and is in excellent condition. His record shows how well an infant may thrive even on a small amount of sugar (Chart 6).

CASE 10.—This boy, aged 9 months, was brought to me October 17 from Kentucky, in a state of extreme malnutrition. He weighed six pounds at birth, was breast-fed for five months, then all foods were tried, chiefly barley-water and milk. He had never done well and for two months had had numerous foul, green stools containing mucus and curds.

Physical examination showed marked emaciation, slight beading of ribs, distended abdomen, small inguinal hernia (R). His weight at this time was 10 pounds 8 ounces.

Blood:

Erythrocytes	5,320,000
Leucocytes	16,000
	Per cent.
Small mononuclear	61
Large mononuclear	2
Polynuclear	34
Eosinophiles	3

As a preliminary treatment, in order to empty and to disinfect the bowels, he was put for a few days on a diet of arrowroot and rice water and given one-quarter-grain doses of calomel and rectal enemata. He was then put on whey, to which subsequently cream and milk sugar were added in gradually increasing amounts, and finally fat free milk. His progress is best indicated by his weight chart. He lost twelve ounces during his first week of treatment, as was expected. Then he gained steadily and rapidly during the subsequent two months of treatment, at the end of which time he returned to his home in excellent condition, weight 15 pounds 6 ounces. At the beginning of treatment he was nine pounds below average, at the end five pounds below. At thirteen months he weighed 19 pounds (Chart 7).

CASE 11.—This boy, aged 8 months, had been fed on various foods and on improperly modified cow's milk. He had had repeatedly vomiting, diarrhea, green curds, elevated temperature, general malaise. Examination showed much emaciation and pallor. Weight 7¼ pounds.

For a month he had been fed alternately with whey and the "materna," being started on Formula 1 of the latter, F. 2.5, S. 5, P. 0.6. While on this formula he had foul, green movements with curds, much colic, occasional vomiting. Whey was tried for several days with improvement. He was then put back on the "materna," with the same bad result. Whey was tried again, and again with improvement. These experiments were repeated many times, and always with the same result. He invariably had trouble while on the "materna," due to caseinogen; he invariably improved when put on whey.

I took charge of him at eight months with his weight at 8½ pounds. He was started on the following mixture: Whey, 2 ounces; cream, 6 drams. Subsequently this was gradually increased. Sugar was added and in about two months he was taking the following mixture: F., 4 per cent.; sugar, 7 per cent.; P. O., 3 per cent. He then began to run a temperature of obscure origin, which was subsequently explained by the development of double otitis media. Then pneumonia and meningitis developed in the course of three days and the child died at ten months. The weight a few days before death was 12 pounds (Chart 8).

As far as his feeding was concerned, this child did very well, as shown by the weight chart; and had it not been for the development of his acute conditions there was every prospect of his permanent improvement.

These cases give a fair idea of the difficulties encountered in every-day practice among babies. Cases 7, 10 and 12 were cases of proteid indigestion, Cases 4 and 9 of sugar indigestion and Case 6 of mixed fat and sugar indigestion. The treatment appropriate to each has been indicated in the respective cases. It is to be noted that it is largely dietary.

SUMMARY.

Cases of difficult feeding in infancy are cases of (a) fat indigestion, (b) sugar indigestion, (c) proteid indigestion. Each one of these varieties may exist alone or in combination with the others. The most frequent form is proteid indigestion, but cases of fat indigestion are also common.

Each individual infant must be a law unto himself. Babies can not be fed by rule of thumb. The form of indigestion present, if possible, must be determined and appropriate treatment be applied. The treatment is almost exclusively dietary. The fats and sugar can be regulated by varying the amounts of cream and sugar.

The composition of cow proteid, high caseinogen and low lactalbumin, must be remembered in the management of proteid cases. The caseinogen must often be cut to a low point or even eliminated altogether; lactalbumin must be retained in the food; this twofold object is attained by feeding whey.

Increase in quality and quantity of the food must be made gradually.

It is desirable that many artificially fed babies should be carefully studied, the symptoms of different forms of indigestion noted and the data published.

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ECONOMICS OF MEDICAL ORGANIZATION.

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The value of medical organization should be repeatedly emphasized, for it requires much repetition of its advantages to secure full co-operation. Medical men are prone to regard each other as rivals, not as colleagues, and this attitude must be abandoned before effective organization can be accomplished. A most harmful delusion is that best results follow independent or individual action; as a consequence of this, fluctuating personal views on medical treatment prevail, influencing the laity who, having apparently exhausted the resources of one man, reject him and select another. Each time a patient makes such a change, while being treated for some persistent disorder, less is expected, hope shrinks, and confidence dies, till at last the educated physician, equipped with knowledge and experience, is rejected and "mystery mongers" are consulted. These pretenders boast much and claim omniscience, and that most potent of remedies, suggestion, replaces skill and judgment. Again, many charlatans possess undeniable skill in certain narrow lines, and far too often good results follow their optimistic efforts.

The public naturally loses confidence in the use of drugs when each physician consulted apparently experiments with different ones, securing only questionable effects. Some physicians do worse, consciously or unconsciously; they belittle their predecessors, giving small evidence of consistency in their reasoning or in their methods. For these and for other reasons that inestimable quality, so beneficial to the individual and communities, the powerful influence of a scientific personality, has steadily waned. This is shown occasionally in the bearing of our patients, many of whom are our personal friends, yet when they come to us for professional aid they exhibit a flippancy, a conscious reservation, a veiled threat to seek elsewhere if we fail, which, to say the least, is humiliating. There was a time when the implied menace took another form, failing regular medication recourse would be had to the promises of the then new claims of homeopathy; now, however, owing to the enlightenment from European sources, where homeopathy has almost ceased to exist, many intelligent people in this country know that there is little difference to be expected, except perhaps in the rosiness of the mystery-colored vaticinations. Nowadays new brands of optimists ruffle in our midst, liberal of auguries. Their watchword is usually "no drugs"; they advocate ecstatic mental attitudes, readjustments of the bony framework, manipulations, the laying on of hands, *et id omne genus.*

This fashion of mind, at least in its momentousness, is largely due to faults in ourselves. We do not consistently and wholesomely supplement the endeavors of each other. We fail in sustaining a much-needed optimism concerning our monumental patient, painstaking and scientific researches. We testify too little to the value of the life-sacrificing, self-abnegating labors of the humbler, as well of the brilliant, of our brothers in arms, who unflinchingly watch and combat the approaches of disease and death. Instead of exerting co-operative action, early and late, forcing all our efforts toward the unending war against the great destroyer, by lack of vigilance and oneness of purpose we permit the petty things of life to dissociate, to disintegrate and to turn aside our blows from the common enemy. We thus fail to exercise the effect which would be ours if we acted as a unit. At the bedside our individual duty may be done according to our lights, but is this duty ever fully consummated, in grave exigencies, unless we give our patients all the readily obtainable help at our command? Consultations we do hold with specialists, not so often or so frankly as should be, but many times, if we held our neighboring practitioners in just esteem, a life could be saved, suffering would be spared, and, what is more, the appreciation of the public would be won, if we oftener held conferences with others. Men of the law do this thing. Unless direct opposition of interests exist they freely consult each other, sometimes for a fee, oftener with expectation of none. Clergymen hold regular conferences, in some churches, recognizing that they are laboring in a common field to elevate the better parts of man. So of other learned professions; surely nowhere in the realm of human endeavor is enlightenment more needed than among the conservators of health and life. To a limited extent, in large cities, in the meetings of special medical societies, there is ventilation of opinions on pertinent subjects. Particularly is this done among specialists, as in the sections of academies of medicine and associations of physicians and surgeons on occasions selected for discussing the details of narrow specialities, and enormous advantages follow. Individual jealousies are then largely sunk in the breadth of the view taken and the elaborateness of the discussion.

In more sparsely settled communities, even where there exists some semblance of organization, as is well known, frank, full discussions are rather shunned than welcomed. Even in certain great cities there are large areas occupied by excellent medical practitioners where there are few or no local organizations; certainly too little interest is exhibited in the practical workings of these societies where they do exist. Some few of the practitioners are members of the greater societies, but geographical remoteness is regarded as a tenable excuse for rare attendance on meetings.

The ideal organization would be a central meeting place, with a membership actuated by high ideals, presided over by wise and liberal-minded men, and represented by local branches of definite areation, with official meeting places. In each section there should be not only a fair, but full and liberal membership, including all good men properly qualified, constituting a great army whose efficiency would be demonstrated in proportion to the perfection of their organization system. Among such educated, enlightened men there could be no lack of able leaders; all should wish to be faithful soldiers, who would glory in working shoulder to shoulder in a common cause. For the cause is a common one, to which all conservators of human health are committed by devotion of heart and head.

To be sure, the science of medicine requires that her votaries shall acquire means of sustenance while doing duty. Go further, if you like, and call the practice of medicine a legitimate business where each one shall do the best for himself according to his abilities and opportunities. If, however, we estimate on a mere business basis, by which the largest results are made to follow the smallest efforts, assuredly those who have entered the field with this object had better turn back and seek other and more profitable occupation before it is too late. Arguing on the full expectation of adequate material returns, however, even here every argument is in favor of enlightened organization and co-operation.

Take for a moment the question of knowledge, the paramount item of equipment. Information comes largely from books and first-class periodicals. In the more scattered sections, among medical men of small capital, books and knowledge of scientific advancements constitute, in large measure, their capital. The admirable plan of co-operative libraries indicated by Geo. M. Gould and spread abroad so persistently by C. D. Spivak in the now defunct journal, *Medical Libraries,* offers inestimable advantages. This is, in brief, for any number of doctors in a certain locality, for example ten men, to purchase, after due conference, five new books a year and take one leading journal, each according to his inclinations so far as possible; then, pooling their issues, to form card catalogues of their books. There is thus constituted a library of fifty new books each year and ten journals to circulate among the members.

This is a large library for any one man to enjoy, be he rich or poor, and many, in fact enough, periodicals to read, and the cost to each man is small. Over and above the value of the information thus disseminated is to be estimated the personal, more or less intimate, acquaintanceship inevitable on the interchange of library courtesies.

The selfish or merely material view of acquisition is worthy of attention; indeed, when all is said and done, we are all influenced, and rightly so, some less, some more, by personal considerations. Let us suppose a body of practitioners in a region somewhat remote from societies, hence few may have become members. These men are relatively free lances, because not bound by the code of ethics or by special ethical regulations of county or of other societies. They have come to regard each other in the light of competing shopkeepers, doing the same kind of business in a community which is often overfurnished with medical advisers. One man has a well-to-do, but not a wealthy, patient, concerning whose condition he is distinctly anxious or puzzled. He hesitates to put the patient to the expense of a consultation with the specialist of his choice, but would be glad of counsel. He delays till the condition has become so grave that the patient dies suddenly. The family has ample ground for dissatisfaction, even for anger; he loses the family and a large measure of reputation, and he richly deserves to do so. Now, had he and his neighboring physicians felt the common bond of adherence to formulated ethics, he would feel at full liberty, early in the progress of the case, to call a conference with one or more of his medical colleagues, from the stimulus of which good would almost immediately follow.

Each one of these physicians would receive a conference fee, presumably the same or a little larger than the ordinary one, but less than that of the specialist consultant. The patient would be only too glad to pay, and not only he but the family and all the conferees would be pleased, and the attending physician would thus enhance his reputation as a wise, judicious and liberal-minded man. Suppose, further, that the patient dies suddenly and unexpectedly; no blame whatever can be fastened on the physician. He not only did his best, but the responsibility was shared with the reputable practitioners of the neighborhood. Again, take a common instance. Each physician acquires some special skill or dexterity, the outcome of taste or of accidental training. Suppose a man with some painful state consults the physician of his choice who happens to have little acquaintance with the class of maladies represented. He calls on a defective memory and may be guesses, giving drugs and diets to no effect. He might again have recourse to the distant expensive specialist, but he may not know enough of the nature of such troubles to select a suitable one. In disgust the patient goes to an osteopath or to a bonesetter who at least has been taught certain elementary physiologic principles, among which is to examine the part carefully from the standpoint of mechanics, and who has a crude knowledge of the influence of the vasomotor system and of the distribution of the innervation from the segments of the cord and something about inflamed joints and lymph stasis and tissue infiltrations. This man, boasting that he knows more than many doctors, which is often true, promptly and with much flourish readjusts the parts, uses pressure and counter-pressure, and, behold, the case is cured. Thereupon not only the blundering physician is blamed for taking money under false pretenses, but the whole medical profession is sunk low in the estimation of a voluble community and the osteopath is practically invited to move into the neighborhood, to the confusion of all, physicians and laymen.

Now, if among the medical men one or more had enjoyed some instruction in the art of massage or manipulative measures and had been called in conference, his eyes being opened to the efficacy of looking at the part, and to the power of mechanical treatment, he would know that drugs had no place there, only the doing of the one right thing.

It may be objected that these conferences might lead to jealousies and to the belittling of one man's knowledge compared with that of another; I answer not so, by repeating that each individual medical man is probably capable, even brilliant, in recognizing and relieving disorders in one or more specialized lines. By such means the one and the other supplement and broaden their powers by frank, trustful co-operation, gaining a practical knowledge of their several capacities. Each and all are the better for their confidence, each and all make more money, retain their influence with the individual, with the family and with the community. We are brothers in a common cause, we are laborers supplementing each other's limitations, we are warriors arrayed against a common foe; not only disease and death, but the ever wakeful, ever critical kicker and traducer and welcomer of "pathies" and mysticism which constitutes so large a part of the inclinations of common humanity. Yet we slave our lives out trying to keep these people alive and well. Assuredly we can exert a vastly better influence by joint action than by individual unaided, narrow-minded endeavors. By this co-operation we are enabled to cover the whole realm of medical practice otherwise impossible to the best and wisest.

Finally, let me ask what is the position of the medical profession as an entity in the national councils. How far does the influence of medical thought reach in national or state legislation? How much of good could this influence exert on the welfare of the nation, on national or on sectional economics? These and other correlated and virtally important questions must be answered by each one in much the same key. One only, and a practical answer, can be offered here.

The power of the aggregate medical influence in a country is practically boundless and for good of a most diverse and as yet undefinable character, provided individual physicians could be made to realize their own value and could be brought to exert their influence in mass. To do this presupposes thorough, painstaking organization, a full discussion of all such subjects as

naturally fall within the jurisdiction of physicians, a wise formulation of conclusions reached, and a courageous maintenance of recorded convictions. If each reputable physician in America were a member of the American Medical Association and fulfilled his duty in local and centralized organizations, not only would the power of medical opinion become invincible, but individual self-respect would reach a high plane. Not only so, but, individual values being thus raised, proportionate earnings would follow. The public is perfectly willing to pay well for value received and they would quickly become content to pay more for better service not only in times of exigency for personal attention, but for the knowledge that through and by intelligent watchfulness of local and national interests they would be better served, better protected and that future needs would be anticipated and met.

THE DEVELOPMENT OF FIBROIDS OF THE UTERUS AFTER ABLATION OF THE APPENDAGES.*

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Medical literature teems with papers, discussions, essays and books on the subject of fibroids of the uterus in their multiform variations. Fifty-three pages of the Index Catalogue of the Library of the Surgeon-General's office were required to list the titles of the literary productions on tumors of the uterus received in that magnificent library previous to 1893. Of these, fully three-fourths are concerning fibromata and myomata. In the Index Medicus, the list is ever increasing and probably twice as many treatises have been published since, as before, the year mentioned.

Nor does the search for knowledge of uterine fibroids lose any of its energy. New facts concerning these tumors are constantly coming to light; formerly they were considered benign from beginning to end, and they were supposed never to begin before puberty or after the menopause; all these points have been absolutely refuted, at least from a practical standpoint. The large number of published cases of fibroid tumors that have undergone malignant degeneration, or that have broken down, become infected, or undergone other changes in structure detrimental to the lives of their unfortunate possessors have swept away the old ideas as to their benignancy. In fact, pathologists are now searching for a distinct borderline between benign and malignant soft uterine myomata. Recurrent myomata, while not so positively dangerous as cancer, must be considered malignant. Between these and sarcomata there is not always a distinct difference. That they may appear before the establishment of the menstrual function has been abundantly proved. Even the single case of Sutton should go far toward convincing the heretic of this fact. Sutton found a fibroid in the uterus of a childless widow, who had been twice married and had never menstruated or shown any physiologic evidence of ovulation. It had been there twelve years. In 1898,[1] I published a paper, probably the first, on the subject of fibroid degeneration of the uterus after double salpingo-oöphorectomy. It remains as the only paper on the subject in medical literature with the exception of a report of a case by Hey Groves which will be quoted later in this paper. I have noted incidental references, however, to cases like that of Ries[2] in his most excellent article, "The Pathology of Stump Exudates After Salpingectomy." The third case therein mentioned is that of a woman, from whom, several years ago, both tubes and ovaries were removed; then fibroids developed in the uterus and in 1897 vaginal hysterectomy was performed by Dr. F. Henrotin. The cases I have had were as follows:

CASE 1.—C. B., colored, aged 26.

History.—Both appendages were removed for pyosalpinx of gonorrheal origin (supposed) in 1895. The patient was ill but four weeks previous to operation. She had been married two months and had not been pregnant. The uterus at time of operation was about normal size and was not uneven on its surface. The following March she reported having had profuse hemorrhages from the uterus in January and February, and severe and almost constant pelvic pain.

Examination.—An examination revealed an enlarged and nodular uterus.

Treatment.—I did vaginal hysterectomy by morcellation. The uterus was found much enlarged, probably three times its normal size, and studded with numerous small fibroids, none having a diameter of more than half an inch. These tumors were distributed throughout the body of the organ, being directly under the peritoneum and endometrium, as well as in the middle of the muscular wall.

CASE 2.—Mrs. R., white, aged 32, married.

History.—The patient has one child, 14 years of age, no other pregnancy; this labor was followed by fever and she has continually suffered since with pelvic pain, profuse flow and dysuria. In September, 1895, she had moderate fixation of the uterus, endometritis and a doubly lacerated cervix. Curettement and trachelorrhaphy were then done with the expectation of separation of adhesions of uterus and appendages at the same time. However, when the abdomen was opened considerable pus was found in both tubes and the appendages were removed. The uterus was palpated, seemed in good condition and was not removed. She recovered and returned home in buoyant spirits. About a year later she began to have considerable losses of blood from the uterus and pains through the pelvis.

Examination and Treatment.—In December she called at my office and the uterus was found fully double its normal size and distinctly nodular. Hysterectomy was advised and the following month it was done through the vagina and by morcellation. The uterus contained several very small fibroids.

CASE 3.—Mrs. B., white, aged 36, multipara.

History.—The patient was operated on for double ovarian dermoid cysts in November, 1899. Menstruation returned, and with severity fourteen months later. It continued profusely with intervals varying from ten to twenty-two days until I saw her about eight months later.

Examination and Treatment.—At this time, the uterus was found to be more than double its normal size and nodular. Vaginal hysterectomy was done and eight small fibroids were found distributed through the uterus. Adhesions to the organ were marked.

CASE 4.—Mrs. W., widow, white, aged 46.

History.—The patient had had both appendages removed in another city six years before she consulted me in June, 1903, for severe pelvic pain, frequent urination and profuse and irregular uterine hemorrhages of two years' duration. The irregularly shaped uterus extended nearly to the umbilicus and was removed by morcellation by the vaginal route.

The case reported by Hey Groves[3] previously referred to was as follows:

Fibroid tumor of the uterus developed after both ovaries and tubes had been removed for independent disease (dermoid cyst).

Patient.—A woman aged 45 had had four children, the last six years previously.

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* Read at the seventeenth meeting of the Southern Surgical and Gynecological Association at Birmingham, Ala., 1904.

1. The National Med. Rev., Washington, D. C., vol. viii, pp. 1-5.
2. Amer. Gyn. and Obst. Jour., January, 1895.
3. Obstet. Trans., London, 1903, vol. xlv, p. 136.

History.—In November, 1896, she suffered from pelvic pain and abdominal swelling caused by an ovarian tumor. Both ovaries and tubes were removed completely. The right ovary contained a unilocular dermoid cyst. Complete amenorrhea followed for thirteen months. In December, 1898, bleeding occurred, lasting six days, with clots and pain. Menstrual periods then occurred with intervals of five weeks, then four weeks, and in 1901, three weeks, the flow remaining six days and the pain being very severe.

Operation.—In April, 1901, the uterus, containing a fibroid about the size of a small fetal head, was removed by abdominal hysterectomy. The mass removed weighed one and a half pounds and was nearly spherical, measuring from 3½ to 4 inches. A single, densely hard fibroid tumor occupied the posterior wall of the uterus. No trace of tubes or ovaries could be seen. The patient recovered and is now in good health.

Of these five cases two were operated on for non-infectious disease, two were victims of infection and in one the condition requiring removal of the appendages is not known.

It may be suggested that these growths antedated the disease that involved the appendages or developed coincidently with it, and that they were present at the time of operation. This may be the truth. It is by no means impossible for uterine fibroids to be so small as to escape detection by palpation of the uncut uterus even with fingers in the peritoneal cavity. As evidence against it, however, it may be said that in such case they must have been exceedingly small thus to escape detection. It may also be said that their development, apparently entirely after ablation of the appendages, is contrary to the opinion formerly held by most gynecologists, but now by but a few. It casts a strong shadow of unbelief on the efficiency of removal of the appendages to produce atrophy of uterine fibroids, an operation that gained a firm foothold in Europe and found many adherents in this country. It is very common for gynecologists having large clinics frequently to see cases of good sized uterine fibroids that the possessors have not been cognizant of until many years after cessation of menstruation. Does the sudden change in the pelvic circulation, incident to the ligation of the utero-ovarian blood vessels in double salpingo-oöphorectomy, act as a cause of the subsequent fibroid degeneration of the uterus? This question may be reasonably answered in the negative, else such degeneration might logically be seen commonly instead of rarely. Yet, it may be possible that hemorrhagic infarcts in the uterus may occasionally be produced in a manner that will result in a hyperplasia of connective tissue and be the origin of fibromata.

Whether in the process of uterine atrophy etiologic factors of this condition arise is very improbable, though the possibility must be admitted.

That the formation of pelvic adhesions incident to appendage disease, particularly when of infectious nature, may cause fibroids is possible; but here again must be considered this very common condition acting as a cause of a very rare one.

Does an infectious process of the uterus of some special degree or variety gradually bring about this fibroid degeneration? This seems highly probable, though problematic. A cursory consideration of the changes in the uterus after ablation of the appendages in the lower animals may be interesting in this connection. I quote from a paper published by Hunter Robb[4]: "Solokoff[5] noted the following changes in the uterus after bilateral castration in dogs:

"1. Marked changes in the muscular layer, which is the chief constituent of the uterine wall. (*a*) Atrophy in the circular layer setting in as early as six weeks after castration. (*b*) Disappearance of muscle fibers in the longitudinal layer, the fibers being less close than in the corresponding layer in the normal animal. The layer is diminished to half its normal thickness.

"2. No changes in the vessels. The atrophy increased in direct proportion to the time which had elapsed before the dogs were killed. In specimens from a dog killed fourteen months after operation the following were noted:

"1. There is no trace of atrophy in the mucosa.

"2. The circular layer does not present so broad a ring as in normal specimens. It is thin and the muscle fibers are separated, and in places broken.

"3. The vessels are much altered. They are much thickened; their lumen is narrower than normal, and many are obliterated. The intervening tissue is atrophied to such an extent that the vessels often touch one another.

"4. The longitudinal layer has almost entirely disappeared."

He shows atrophy begins first in the circular layer and is intense; in the longitudinal it is slower but continuous. The mucosa remains unaltered. Neither fatty degeneration nor albuminous clouding was noted, but there is much change in form in the individual muscle cell. The fibrillary substance has disappeared and only the nucleus and a granular protoplasm are left. Solokoff reasons that the effect of castration on the uterus is manifested through the nervous system since decreased blood supply—the only other assignable reason—does not result from ligation of the ovarian arteries and since the direct connection between the ovaries and the uterus through the central nervous system remains. In castration this connection is broken. Moreover, Rein has demonstrated that isolation of the uterus from the central nervous system by severing the branches of the sympathetic or of the sacral nerves has no influence on nutrition of the organ and that this atrophy occurs after the function of the ovaries has disappeared at the menopause. As the ovaries are the points of departure for stimuli to the uterus, the removal stops the functions of the uterus, which are necessary for the preservation of any muscle. Gottschalk[6] and Kleinwachter corroborate Solokoff's contention.

In the uterus of a woman removed three months after castration Benckeiser noted an endarteritis obliterans to which he referred the atrophy noted. Gottschalk found in another specimen removed eighteen months after removal of both ovaries for bilateral gonorrheal pyosalpinx that atrophy was greater in the body of the uterus than in the cervix. The individual muscle cell showed a decrease in the size of the body and of the nucleus. The intermuscular tissue was increased, but he could not decide whether he was dealing with a progressive fibrillary metamorphosis of the muscle cells or with the end products of an old inflammatory process. The endarteritis found by Benckeiser he could not discover, though he did note a marked folding of the intima of the larger vessels corresponding to the functional diminution in the size of the lumen produced by an increased tonus in the vessel wall.

From these experiments and investigations one can find but one theory on which to base a cause for the development of fibroids after double salpingo-oöphorec-

4. Cleveland Med. Gaz., May, 1898.
5. Arch. f. Gyn., 1896, vol. li, p. 2.
6. Arch. f. Gyn., 1897, vol. liii, p. 2.

tomy. That is the endarteritis obliterans noted by Benckeiser. I wish the relation was clearer and that more cases could be cited in substantiation. In all the cases of development of fibroids of the uterus after removal of the appendages cited in this paper, the tumors were multiple, showing the existence of a number of foci, and pathologists, I believe. have been interested in endarteritis obliterans in the uterus as the origin of fibroid tumors. The cases of such development of fibroids after castration are probably rare and their existence must be due to some rare cause such as is this form of endarteritis. In the absence of a better explanation I am disposed to accept this one.

A CASE OF TYPHOID PERFORATION OF THE INTESTINE WITH SURGICAL TREATMENT AND RECOVERY.

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Patient.—Male, age 38, single; occupation, miner. Previous history unimportant.

History.—His illness began 37 days before he was admitted to the University of California wards in the San Francisco County Hospital. At that time he was working in the mines at Mojave. The onset was marked with weakness and dizziness and alternate diarrhea and constipation. He stopped work, but did not go to bed. After going from place to place for five weeks he was admitted to the hospital on Nov. 17, 1904.

Examination.—On entrance he had a temperature of 101.8 F., liver and spleen were slightly enlarged, there were roseola on abdomen, and tenderness and gurgling in right iliac fossa, diazo reaction was present, and the Widal reaction was present in dilution of 1 in 40 in 45 minutes; hemoglobin, 65 per cent.; leucocytes, 6,500.

Treatment.—Treatment for typhoid fever was instituted, and during the next four days a gradual decline in temperature took place, the curve ranging from 98.4 to 101.8 F. The highest temperature on the day before the perforation was 100.4 and the lowest was 99 F.

Course of the Disease.—On November 22, the forty-second day of the disease, the temperature dropped to 97.2 F. at 4 in the morning. At 8 a. m., just after drinking milk, he complained of severe pain in the right iliac fossa. This was at once reported to the interne, Dr. Castlehun, who deserves credit for recognizing the condition and for instituting the proper temporary treatment. An hour later the patient had a severe chill, and the pulse rose to 124 and the temperature to 103.4 F. Examination just before the chill showed tense muscles on the right side of the abdomen, marked tenderness over the cecum, and a dull note over the ascending colon. This dullness was apparently due to the condition of the abdominal muscles and the empty contracted intestine underneath. The liver dullness was clearly defined at the costal margin. The leucocyte count at 9 o'clock was 10,600; at 10 o'clock, 7,300.

The fall of temperature to 97.2 F. four hours before the pain was noticed was probably the actual time of the occurrence of the perforation, but the taking of food at 8 o'clock started peristalsis that caused the sharp pain. The chill at 9 o'clock undoubtedly marked the beginning of peritonitis. This is an important symptom in the diagnosis of perforation. One may not always be justified in separating the symptoms of the shock of perforation from the symptoms of peritonitis, but in this case, with a fall in temperature at 4 o'clock, sharp abdominal pain and muscle rigidity at 8 o'clock, and a chill an hour later, it would seem that the first symptoms were due to the perforation itself and not to peritonitis. Before the first early signs of peritonitis it is very difficult to make a diagnosis. At any rate, in this instance the sudden fall and subsequent rise of temperature, the acute pain in the right iliac fossa, the tenderness, the rigid muscles, the quick rise of pulse, the chill, and the presence of typhoid fever as a cause, enabled a diagnosis of perforation through an ulcer to be made, and the patient was immediately taken to the surgical ward for laparotomy, with most satisfactory results.

The subsequent history will be dealt with from the surgical standpoint.

Examination by Dr. Huntington.—I saw the patient November 22 at 10 a. m., with Dr. Ebright, who had made a diagnosis of typhoid intestinal perforation.

At this time the evidences of profound shock which were manifested at 8 a. m. had measurably subsided; in fact, I hesitated to concede the correctness of Dr. Ebright's opinion. There was no distension and, save over the right lower abdominal segment, tenderness was not especially noticeable. The temperature rose rapidly from 101.4 F. at 8 a. m. to 103.2 F. at 11 a. m. The pulse rate showed a corresponding increase from 84 at 8 a. m. to 140 at 11 a. m. Three white blood counts made between 8:45 and 11 a. m. were interesting. The first showed 10,600 leucocytes, the second 7,300 and the third, just before operation, 6,400.

Operation.—The patient was taken to the operating room at about 11 a. m., and under ether anesthesia the abdomen was opened by a vertical incision 3½ inches long at the outer border of the rectus. The peritoneal fluid was slightly increased and appreciably turbid. The visceral peritoneum was deeply reddened, but there were no lymph deposits and the various loops of bowel were not agglutinated. The small bowel was picked up at the ileocecal valve and was carefully inspected. At a point 8 inches from the colon a small perforation was found in the center of a dark colored elevated area, the size of a nickel, marking the location of Peyer's patch. The opening was about the size of a pin head, but through it the contents of the bowel spouted freely during manipulation. The perforation was closed by a purse-string suture, to which a second was added.

The structure of the bowel adjacent to the perforation was fairly normal and there was no inclination for the sutures to tear out. On further inspection of the ileum it was found that there was no evidence of ulceration proximal to the perforation. Between that point and the ileocecal valve two other elevated patches were found at 2½ and 5 inches from the valve. The covering of the latter was much thinned, and another perforation was impending. Accordingly it was fortified by a purse-string suture. The covering of the third patch seemed fairly resistant and it was not interfered with. The appendix looked angry and was evidently in a state of more or less acute inflammation, but owing to the unfortunate condition of the patient it was thought best not to prolong the period of anesthesia by its removal. At this stage of the procedure, toilet of the perineum became a matter of extreme moment. Irrigation of the general cavity was not considered seriously. The bowels being held aside, large gauze pads were inserted to remove free fluid. This was followed by careful sponging with smaller pads until practically all the peritoneal fluid was eliminated. Despite the fact that Harte and Ashurst and authorities generally agree that drainage should be employed in these cases, I determined to close the wound as in an ordinary clean laparotomy.

The immediate closure of the wound without drainage in the average case of typhoid perforation can not be regarded as a legitimate procedure, but in this instance drainage was omitted because of the small amount of extravasation which had occurred and because of the resistance which the peritoneum manifests when the original focus of infection has been removed at an early period. When sufficient time has elapsed after perforation to admit of extensive peritoneal involvement, drainage by gauze wicks through two or more channels, as suggested by Richard H. Harte, is imperative.

Result.—The patient left the operating room in a state of moderate shock, but reacted well in the course of one hour, at which time his pulse was 108 and respiration 20. For the first forty-eight hours he was fed by rectum, then mouth feeding was gradually resumed. During the first five days he

ran a temperature from 100 F. in the morning to 102 F. in the evening, about as he had been doing before the perforation. There was a free bowel movement on the third day, and the wound at this time seemed to have closed *per primam*.

On the morning of the fifth day a stitch abscess was discovered in the upper part of the wound, which discharged about two drams of thick pus. On the seventh day the discharge manifested a distinctly fecal odor. Following this there was a free discharge of bowel contents, necessitating reopening of the entire skin wound. Fortunately the bowel opening communicated freely with the wound and there was no evidence of peritoneal infection. Gradually the discharge lessened, the sinus became narrowed and about January 1 it closed permanently.

The patient is now convalescing rapidly. He is able to be up and about the ward and is approaching perfect recovery.

That the occurrence of fecal fistula is not so serious as might be imagined is evidenced by the statement of Harte and Ashurst, that of 16 patients who withstood the immediate shock of operation, and in whom a fecal fistula subsequently developed, only two, or 12.5 per cent., died. A fecal fistula, according to the same authorities, is of favorable import. Such lesions rarely fail to heal spontaneously, but, if necessary, reparative measures may be adopted after complete convalescence.

My experience in dealing surgically with typhoid bowel perforations is confined to three cases. The first occurred in 1901. The patient was a woman in whom the perforation occurred sixty hours before operation. There was general peritonitis due to extensive fecal extravasation, and death occurred twelve hours later. The second case, curiously enough, was operated on the same day as the first. The patient was a man in whom the perforation occurred about forty hours prior to operation. He was suffering from diffuse peritonitis due to fecal extravasation, and died sixty hours later. The reasons for the more fortunate termination of the third case are clearly assignable to prompt recognition of the lesion and immediate resort to radical measures for relief.

The operative tolerance of typhoid patients, even those whose vitality has been markedly lowered by the previous illness, is widely recognized. It is maintained by Harte and Ashurst that deaths following surgical interference have rarely been due to operation. Of twenty-six exploratory laparotomies in which perforation had not occurred sixteen patients recovered. The nine fatalities in this series were clearly attributable to causes independent of operation.

R. R. Fitch, M.D., reports from the services of Drs. Vickery and Minot at the Massachusetts General Hospital, 4 cases of laparotomy during typhoid fever. Two were for typhoid perforation, one for a pus tube, and the fourth was for an acute appendicitis. All the patients recovered, and these were all the cases of typhoid subjected to laparotomy during the summer of 1904.

Many other cases of a similar nature could be added to the list of typhoid laparotomies with a favorable result.

In 1903 Harte and Ashurst reported to the American Surgical Association 362 cases of operation for typhoid perforation. This series was collected from the literature covering the period from 1884 to 1903. Of this series, 94 patients recovered and 268 died, the mortality being 74.03 per cent. In a more recent article Keen, commenting on published statistics, calls attention to the progressive fall in mortality in cases operated on, from 90 per cent. in the earlier to 69 per cent. in recent years. He further states that individual operators, with exceptional hospital facilities, have had a much lower mortality rate, and expresses the belief that in the future surgeons may anticipate a ratio of recoveries amounting to from 40 to 45 or possibly 50 per cent. To this end the doctrine of Mikulicz, enunciated so early as 1884, must actuate the surgeon of to-day: "If suspicious of a perforation, one should not wait for an exact diagnosis, but proceed immediately to an exploration, which in any case is free from danger."

STENOSIS OF THE PYLORUS IN INFANCY.

AN ANALYSIS OF 115 CASES.

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"The pylorus was invested with a hard, compact substance or schirrhosity, which so completely obstructed the passage into the duodenum as to admit with the greatest difficulty the finest probe." Thus wrote Hezekiah Beardsley[1] in 1788 from New Haven, Conn., after having examined the stomach of a child who had had "puking and regurgitation of milk" from birth, but who, although much emaciated, had lived, in spite of this rejection of food, until she was 5 years old.

Beardsley's case of 1788 is the first recorded instance of obstruction at the pylorus occurring in infancy. It is a record of importance. In 1841 Williamson[2] recorded the second case of pyloric stenosis. The child died when five weeks old. In 1842 Dawoski[3] reported the third instance. This case likewise died when five weeks old. From the time of the case of Dawosky to that of Hirschsprung[4] of Copenhagen in 1888, a period of forty-six years, medical annals contain no clinical instances of infantile pyloric stenosis.

With the paper of Hirschsprung, in 1888, begins the record of modern cases. Experience with pyloric stenosis in infancy only covers, therefore, a period of about seventeen years. The earlier records are incomplete, but the recent reports are more nearly accurate.

A critical consideration of the accumulated medical and surgical experience with stenosis of the pylorus in infancy should serve to clear away many doubts concerning it and to place its treatment on a definite basis.

The keen interest of the medical profession to-day in stenosis of the pylorus in adult life has led to greater accuracy in its diagnosis and to most brilliant surgical results. The experience gained by our knowledge of the adult condition should prove of value in a study of infantile stenosis.

SUMMARY OF THE REPORTED CASES.

There are available records of some fifty-five autopsies of cases of infantile pyloric stenosis treated medically, and there is great uniformity in the returns from these autopsy reports.

In every instance a pyloric tumor is mentioned; a tumor unassociated with adhesions of any kind; a tumor varying in size and likened to a walnut, to a hazelnut or to a marble.

When one remembers how indefinite at times is the

1. Beardsley: Trans. New Haven Co. Med. Soc., 1788; quoted by Osler, Boston Med. and Surg. Jour., March 12, 1903.
2. Williamson: London and Edinburgh Monthly Journal of Med. Sci., 1841, p. 23.
3. Dawosky: Arch. Gén. de Méd., 1843, 4th series, vol. ii, p. 93.
4. Hirschsprung: Jahr. f. Kinderheilk., 1888, vol. xxviii, p. 61; vol. iv, p. 596.

normal adult pylorus, and how difficult it may be to immediately localize it at operation and at postmortem examination, one is impressed by the definite picture of the pyloric tumor in these diminutive bodies.

The pyloric tumor in each instance was very firm. It is described as being "hard," "very hard," "cartilaginous like" and "scirrhus." "It creaked under the cut of the knife."

Careful microscopic examinations of this movable, circumscribed, hard pyloric tumor show that the enlargement in every instance is due chiefly to a hyperplasia of the circular muscular fibers.

Once the longitudinal muscular fibers were found increased in size. Note the case of Greef.[5] The muscularis mucosæ in the case of DeBruin-Kop[6] was thicker than normal.

Because of the circular constriction of the pylorus the mucous membrane in most instances was thrown into more or less well marked longitudinal folds. These longitudinal folds of mucous membrane are of importance in connection with the treatment of these cases; obviously, they may obstruct the lumen of the pylorus.

In Ashby's[7] case the pyloric mucosa was "swollen." In Larkin's[8] case a new growth of connective tissue in the mucosa is described. The report reads: "There is a hyperplasia of the circular muscular fibers and a replacement of the tubular glands of the mucous membrane by new connective tissue."

Cautley[9] describes a single large longitudinal reduplication of the mucous membrane lying on the posterior wall of the pylorus. Dawosky records a thickening of the submucous lymphoid tissue. This has been observed by no one else.

In estimating the pathologic significance of the longitudinal folds of mucous membrane it must not be forgotten that they exist normally. Probably the folds noted postmortem are the normal folds somewhat exaggerated in number and in size because of a puckering occasioned in certain cases by the constriction of the pylorus, and in other cases by a new growth of connective tissue (as described by Larkin[8]). Prudden discovered in Meltzer's case a fibrous hyperplasia of the submucosa accompanied by the customary hyperplasia of the circular muscular fibers.

The varying thickness of the several layers of the pylorus and stomach has been carefully measured, both macroscopically and microscopically. Gran[10] in 1896 (Table 1) published one of the earliest records of such microscopic measurements, and presented measurements of the normal pylorus for comparison. The gross appearances of hypertrophy were confirmed by his observations.

Still[11] of London, in 1899 (Table 2), likewise made measurements of the normal pylorus at different ages, from 4 weeks to 12 months. He compared these with measurements of the hypertrophied pylorus. Still made measurements of eight individuals with normal stomachs and of three individuals with hypertrophied pylori (Table 2.)

Considerable variation exists in the normal pylorus for the same age, and the differences between the normal and hypertrophied pylorus are very striking.

The important fact demonstrated by these careful measurements is that the essential pathologic change in these cases is primarily an enormous hyperplasia of the circular muscle fibers of the pylorus and of the adjoin-

TABLE 1.—COMPARISON OF STOMACH WITH STENOSIS OF PYLORUS AND NORMAL STOMACH.

Measurements of the several layers of the normal pylorus at 4 months and measurements of the hypertrophied pylorus of the same age. Compare figures. Child had had symptoms for two months. (From Gran.)

MEASUREMENT OF TRANSVERSE SECTION.

	Hypertrophied Pylorus.	Normal Pylorus.	
Glandular Coat	600 microns	450 microns	
Muscularis Mucosæ	100	52	
Submucous Coat	300	225	
Tunica Propria	52	39	
Muscularis: Circular Fibers	2,775	1,390	
Muscularis: Longitudinal Fibers	225	260	
Serous Coat	60	26	
	4,112 mm.	2,442 mm.	1,670

MEASUREMENT OF TRANSVERSE SECTION OF STOMACH.

	.1 cm. Distant from Pylorus.	Normal Stomach.	
Glandular Coat	600 microns	375 microns	
Muscularis Mucosæ	75	39	
Submucous Coat	450	150	
Tunica Propria	52	39	
Muscularis: Circular Fibers	1,350	620	
Muscularis: Longitudinal Fibers	150	130	
Serous Coat	60	26	
	2,737 mm.	1,379 mm.	1,358

MEASUREMENT OF TRANSVERSE SECTION OF STOMACH.

	4 cm. Distant from Pylorus.	Normal Stomach.	
Glandular Coat	450 microns	450 microns	
Muscularis Mucosæ	52	39	
Submucous Coat	300	75	
Tunica Propria	39	26	
Muscularis: Circular Fibers	1,275	600	
Muscularis: Longitudinal Fibers	75	300	
Serous Coat	65	39	
	2,256 mm.	1,529 mm.	727

MEASUREMENT OF TRANSVERSE SECTION.

	Thinnest Part of the Fundus.	Normal Stomach.
Glandular Coat	150 microns	300 microns
Muscularis Mucosæ	26	45
Submucous Coat	75	150
Tunica Propria	26	39
Muscularis (entire muscular coat)	300	600
Serous Coat	26	39
	603 mm.	1,173 mm.

TABLE 2.—Measurements of normal pylorus in eight infants within first years of life. Some shrinkage due to method of preparation. Considerable variation in the wall of normal pylorus. Compare 5 mos. 5 mos. = 10 mos. — 10 mos. Variation in normal pylorus due to variation in the circular fibers—not in longitudinal fibers. Vide AB. and CD. for normal variations (according to Still).

Age.	Thickness of whole wall.	Whole muscular layer.	Circular layer.	Longitudinal layer	Submucosa.	Mucosa.
			A	C		
4 wk. (a)	About 1.8 mm.	1.18 mm.	1.05 mm.	.13 mm.	.2 mm.	—
wk. (b)	" 2.2 "	1.55 "	1.3 "	.25 "	—	—
4 mo. (a)	1.5 mm.	1.05 "	.75 "	.3 "	.2 mm.	.25 mm
mo. (b)	2 "	1.36 "	1.06 "	.3 "	—	—
5 (a)	2.6 "	1.6 "	1.1 "	.5 "	.5 mm	.5 mm.
mo. (b)	3.3 "	2.5 "	2.1 "	.4 "	—	—
5 (a)	1.7 "	1.15 "	.9 "	.25 "	.25 mm.	.33 mm.
mo. (b)	2.3 "	1.5 "	1.2 "	.3 "	—	—
6 (a)	1.6 "	.9 "	.7 "	.2 "	.2 mm.	.5 mm.
mo. (b)	2.4 "	1.73 "	1.4 "	.33 "	—	—
10 (a)	1.5 "	.82 "	.66 "	.16 "	.23 mm.*	.4 mm.
mo. (b	2.1 "	1.61 "	1.25 " B	.36 " D	—	—
10 (a)	2.4 "	1.51 "	1.1 "	.41 "	.3 mm	6 mm.
mo. (b)	2.9 "	2 "	1.5 "	.5 "	—	—
12 (a)	2.31 "	1.55 "	1.1 "	.45 "	26 mm	.5 mm.
mo. (b)	2.41 "	2.65 "	2.2 "	.45 "	—	—
Measurements of Hypertrophied Pylorus.						
Case 1.	12½ weeks.	3.5 mm.	2.4 mm.	2.1 mm.	.3 mm.	.3 mm.	.8 mm.
" 2.	14 weeks.	3.7 "	2.7 "	2.4 "	.3 "	.4 "	.6 "
" 3.	14 weeks.	5.7 "	3.4 "	2.6 "	.8 "	.9 "	.4 "

*Approximate measurement.

5. Greef: Med. Rec., 1904, 66, 334.
6. De. Bruin-Kop: Nederlan. Tydschr. von Gruesck, 1896, December.
7. Ashby: Arch. of Ped., July, 1897, p. 408.
8. Larkin: Arch. of Ped., August, 1901, p. 614.
9. Cautley: Trans. Royal Med. Chirurg. Soc., 1899, vol. lxxxii. p. 41; Lancet, July 28, 1900, p. 256, 1904, I. p. 645; British Med. Jour., 1902, vol. I, p. 1340.
10. Gran: Jahr. für Kinderheilkunde, N. F. 43, 1896.
11. Still: Trans. Path. Soc., London, vol. l. 1899, p. 97; Brit. Med. Jour., 1899, I. p. 340.

ing stomach wall. These postmortem findings are absolute.

On the contrary, the postmortem measurements of the relaxed lumen of the pylorus can not be looked on as altogether comparable with conditions existing in life. If a narrowness of the lumen exists postmortem it probably was greater during life.

The degree of the stenosis does not always bear a definite relation to the extent of the hypertrophy. The stenosis is variable, and the pyloric orifice is described as of different sizes.

Pfaundler[12] has established an index of size of the lumen of the pylorus for different ages from birth to adult life (Table 3). This index he determined from measurements of the diameter of the normal pylorus. These measurements reduced to the Charriere or French scale of urethral sounds afford a ready method of determining postmortem and during life whether any given pylorus is above or below Pfaundler's scale. It will be important to have Pfaundler's measurements confirmed before accepting them as altogether accurate, but so far as I have compared them with measurements already made they seem satisfactory.

There is, of course, a slight individual variation in the size of the pylorus. A large child will have a larger

TABLE 3.—DIAMETER OF PYLORIC LUMEN.

Pfaundler's index. Table showing the size of the lumen of the pylorus according to diameter in mm. and the French scale of urethral sounds.

Age.	M.M.	Charriere.	Age.	M.M.	Charriere.
Birth	6.3	19	10 mos.	9.8	30
1 mo.	6.9	21	11	10.1	31
2	7.3	22	12	10.5	32
3	7.6	23	.....	....	..
4	7.9	24	.....	....	..
5	8.2	25	.....	....	..
6	8.5	26	.....	....	..
7	8.9	27	.....	....	..
8	9.2	28	.....	....	..
9	9.5	29	.....	....	..

pyloric lumen than a tiny child. The pylorus of one child at six months may take a certain sized sound with ease, while the pylorus of another child of the same age will scarcely receive this sound, yet no symptoms of obstruction may exist in the latter child.

The lumen of the normal pylorus bears a definite relation to the physiologic needs of the individual. If the lumen is reduced beyond a certain point there is stasis or obstruction and, consequently, symptoms of such stasis or obstruction.

Fortunately, measurements of the lumen have been made directly or indirectly in almost all of the postmortems of pyloric stenosis. In all of these cases undoubted stenosis of the pylorus has been discovered.

It has been noted that even though a solid steel sound will pass through the pylorus with comparative ease, yet fluid can not always be made to pass. Note the cases of Cautley and Shaw. The obstruction offered to the fluid is due to the swollen and reduplicated mucous membrane. These folds are smoothed away by the sound.

To illustrate that these measurements vary in reported cases, and how much they fall below the average, i. e., the index of Pfaundler, consider the Gran case. The lumen was 3 mm. at two months. It should have been 7.3 mm. Note the Abel[13] case: The lumen would not take 3 mm. at eight weeks. It should have received 7.3 mm. Note the Batten[14] case: The lumen admitted a 4 mm. probe at eleven months. It should have admitted one of 10.1 mm., etc.

In most instances, in addition to the pyloric changes secondary changes are noted in the stomach; the muscular wall is found thickened (hypertrophied), especially throughout the pyloric segment. This muscular hypertrophy is found commonly in those cases which have died early. They have not lived long enough for dilatation to succeed the hypertrophy. Gran's third case illustrates well the hypertrophy of the stomach wall.

DeBruin-Kop's[6] case illustrates a great dilatation. The obstruction was practically complete in Kop's case. The child's symptoms began at birth, and the child died at the end of three weeks. The complete obstruction led to a rapid loss of compensatory hypertrophy and to an early dilatation which was noted during life. The stomach extended below the umbilicus. The esophagus was found dilated in a few instances. Note the cases of Thomson[15] and that of Pritchard.[16] The intestinal canal below the stomach was almost always found empty and collapsed—"shrunken."

The postmortem findings, therefore, are very definite and, except for minor differences of degree, invariable: a hard pyloric tumor, of constant structure—and a hypertrophied or dilated stomach—occasionally a dilated esophagus—a narrowing of the pyloric lumen—a hypertrophy of the mucous membrane—a collapsed intestine.

This picture from the dead house is the same picture which operating surgeons up to the present time have recorded in some 60 operations on the living child. The surgeons have found on the living the pyloric tumor in every recorded instance. The surgeon has seen, too, the secondary changes in the stomach.

The operator is often unable to measure the lumen of the pylorus. It is inexpedient. In those cases which were measured in life by the surgeon an abnormal narrowing has invariably existed. In all of the 55 autopsy cases there has likewise existed a narrowing of the pyloric lumen. Therefore, the surgeon may rightly conclude that in the cases operated on by him and not measured, the lumen is less than normal also. The evidence from these 115 cases, 55 autopsies and 60 operations, critically examined by pathologist and surgeon, affirms the existence of a constant lesion causing at the pylorus a more or less complete obstruction to the normal emptying of the stomach contents.

SYMPTOMS OF PYLORIC STENOSIS.

Fortunately we possess the clinical story in each of these 115 cases.

The symptoms are found to depend on the degree of the stenosis at the pylorus. The cases group themselves naturally, therefore, into those having complete obstruction and those with partial obstruction.

The symptoms are vomiting, constipation, the presence of a pyloric tumor, progressive wasting, visible gastric peristalsis, and latterly a dilated stomach.

Vomiting is the first symptom and it begins without apparent cause. It begins the day of birth or the day after (see the case of Ladd and that of Finkelstein), or is delayed a few days or weeks, according to the degree

12. Pfaundler: Wein. klin. Wochft., 1898, p. 1025.
13. Abel: Münch. med. Wochft., 1899, No. 48, p. 1607.
14. Batten: Lancet, 1899, p. 1511.
15. Thomson: Scottish Medical and Surgical Journal, June, 1897; Edinburgh Hosp. Rep., 1896, vol. iv, p. 116.
16. Pritchard: Arch. of Ped., 1900.

of the stenosis. In 52 cases the average time from birth at which vomiting appeared was 17 days.

The vomiting is forcible, very expulsive, obstructive. It is apparently uninfluenced primarily by the quality of the food. Many cases have been breast-fed. See the case of Ladd. It is influenced, however, somewhat by the quantity of the food. It occurs usually immediately after a feeding or within a half-hour.

It may skip one or two feedings, and then the vomitus will be equivalent to the total amount of the previous feedings. A very great variety in the times of vomiting is recorded referable solely to the time of the feeding.

The material vomited may be liquid or curdled milk. It usually contains no bile. In the cases of Saunders[17] and Schwyzer[18] bile was present in the vomitus. The autopsy in these cases confirmed the diagnosis of partial pyloric stenosis. In one case because bile was present in the vomitus operation was postponed and the child died.

The presence of HCl in the vomitus is very variable; it may be absent, increased or diminished. Lactic acid is usually absent, and usually there is little evidence of a catarrhal gastritis. Blood has never been vomited in any recorded case.

The act of vomiting is not like the simple spitting up of milk so commonly seen in well babies, a running over of a filled stomach. The vomiting is persistent not in the sense that it is "cyclic," but that it is continuous, with occasional remissions between feedings. In cases of partial stenosis, remissions of a few days are recorded. The rapid increase in the flow of milk from the maternal breast on the third day after confinement results in the baby's taking at that time more liquid than formerly, and the third day is the time when vomiting often begins. It may be occasioned possibly by the sudden overfilling of the stenosed stomach. There is no evidence of nausea. The child is comfortable when the stomach has emptied itself.

Constipation is a usual symptom, depending, of course, on the amount of nourishment which is passed through the stenosed pylorus into the duodenum.

Nicoll[19] reports the case of a patient who had diarrhea. Hirschsprung's second patient also had diarrhea. Generally, the tongue is clean and moist.

The child is inordinately hungry, ravenous, and is pacified temporarily by food, only to show signs of distress when the contractions of the stomach empty the contents after the feeding. The eagerness of the child for its food is remarkable.

The child loses in weight because of starvation, and this loss of weight is progressive. Nicoll records one case in which he was deceived in the diagnosis because the child appeared quite plump and well nourished, but the typical hypertrophy was found.

The contraction of the stomach in attempting to overcome the stenosis may be so marked that visible peristaltic waves are seen passing across the stomach from left to right and ending at the pylorus. These peristaltic waves are very noticeable at the beginning, and early in the course of the case. When the stomach is greatly dilated and when the muscular contraction is diminished in power, the peristaltic waves are less and less apparent.

In those cases which had been ill longest, and in which there was a greatly distended stomach, peristaltic waves were seen less frequently.

In about 38 cases, or one-third of the 115 cases, peristalsis is mentioned as present. Of course, some of the 115 cases are incompletely reported with regard to certain facts.

The stomach is often found dilated, and in a few instances it is described as being below the umbilicus.

The epigastrium is distended by the dilated stomach, and there is a striking contrast between the epigastric fullness and the sunken appearance of the lower abdomen.

A tumor the size of a walnut may be felt a little to the right and a little above the umbilicus. The tumor is slightly movable and is rather deeply seated. The failure to discover the presence of a tumor does not mean that it does not exist, but simply that it is concealed either by the large liver, by the dilated stomach or by a normal abdominal wall. The tumor may become evident only when the pyloric portion of the stomach contracts violently.

Nicoll detected a tumor in 20 per cent. of his cases. One-half of these were examined under ether. In only 18 cases of those reported was a tumor recorded as palpated before the autopsy. I am positive that a more careful examination than probably was made in many of these reported cases would have shown the presence of a tumor. In many cases no attempt was made to detect a tumor. It is extremely easy to slip carelessly over the abdomen without noting evident conditions.

One may group the symptoms of the affection in typical cases as follows:

A perfectly healthy child is born; within a few days of birth vomiting, without evidences of nausea, appears —vomiting characteristic of pyloric stenosis. There is no bile in the vomitus. There is constipation, but the child has a clean tongue and a sweet, natural breath. A somewhat enlarged stomach is found, and there is visible peristalsis of the stomach. There is a palpable pyloric tumor and there is progressive wasting, though the child is greedy for food.

A careful review of these cases convinces me that clinically there are to be recognized two general groups, the acute fulminating cases and the subacute or chronic cases, or, to put it more accurately, the acute cases and the mild cases. From a pathologic standpoint the acute cases correspond to a complete or almost complete obstruction at the pylorus, while the mild cases are those attended by a partial pyloric stenosis.

The rapidity of the wasting is apparently not dependent on the degree of the stenosis. A moderate stenosis may be attended by great wasting.

These clinical observations are interesting in connection with the fact demonstrated at autopsy that the size of the pyloric tumor, which is the apparent cause of the obstruction, is not always indicative of the degree of stenosis present.

A very large proportion of all clinical cases are fairly typical. There is no question, however, but that apart from typical symptoms stenosis of the pylorus may exist. Cautley's[9] case illustrates this fact very clearly. A well, strong baby began to vomit when three weeks old. The vomiting was not characteristic, but persisted, although with remissions. The bowels moved, although the dejections were small and constipated. The child wasted, but during a period of two weeks gained 13 ounces in weight.

The child died of exhaustion when three months old. The autopsy showed a distended stomach and a pyloric sausage-shaped tumor one inch long. The lumen of the

17. Saunders: Arch. of Ped., April, 1902, p. 241.
18. Schwyzer: N. Y. Med. Monthly, vol. viii, 1896, p. 674.
19. Nicoll: Brit. Med. Jour., Sept. 1, 1900; Oct. 29, 1904, p. 1148.

pylorus admitted only a small probe and the contents of the stomach could not be squeezed through it. The microscope showed the characteristic hyperplasia of the circular muscular fibers. These symptoms were atypical, and yet the diagnosis of stenosis was made because of the progressive wasting, the palpable tumor and the vomiting.

DIFFERENTIAL DIAGNOSIS.

These atypical cases will always prove difficult of diagnosis, and it is necessary to keep constantly in mind the classical signs; having those firmly fixed, one may hope to arrive at a diagnosis, even amid an apparently anomalous group of symptoms.

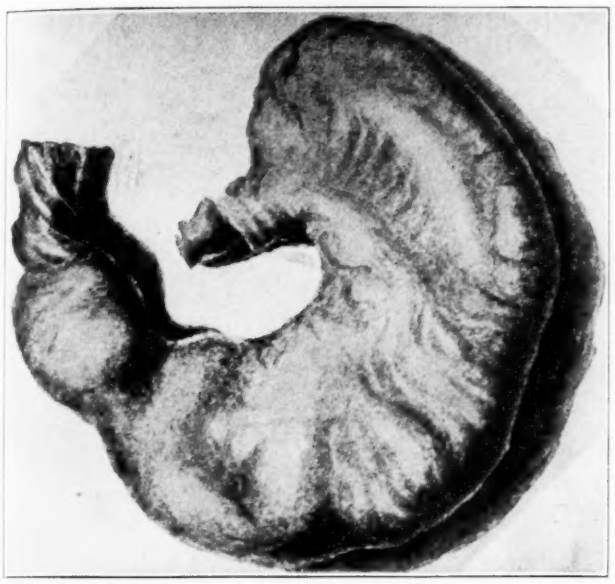

Fig. 1.—Life-size drawing of a stomach of child 7 weeks old: Breast fed, vomited persistently after one week, died in convulsions. Note tumor at pylorus and irregularity of stomach surface. (Henry Ashby, Archives of Pediatrics, 1897, vol. xiv, p. 498.)

Fig. 2.—Section through the stomach of Ashby's case. Pylorus seen hypertrophied; diameter, 2 cm.; pyloric opening, 2.5 mm. (Henry Ashby, Archives of Pedriatics, 1897, vol. xiv, p. 498.)

There are two conditions to be considered in the differential diagnosis: first, a congenital atresia of the pylorus of the duodenum or of the gut lower down than the duodenum. Such cases have been reported by Lesshaft, Macé and Wuensche. These cases are rapidly fatal.

The other condition of far greater importance to the clinician is the very common indigestion or dyspepsia of infancy. This latter condition is so common that a vomiting infant is ordinarily thought to have dyspepsia, due to too much food or to improper food. A careful study of the so-called "persistent dyspepsias" or the "inveterate dyspepsias" of infancy will again and again in the future discover a pyloric stenosis. When the clinician's attention has once been called to this affection he immediately begins to discover cases. Many individual observers are seeing more and more of these cases each year; the affection is not uncommon. A most critical

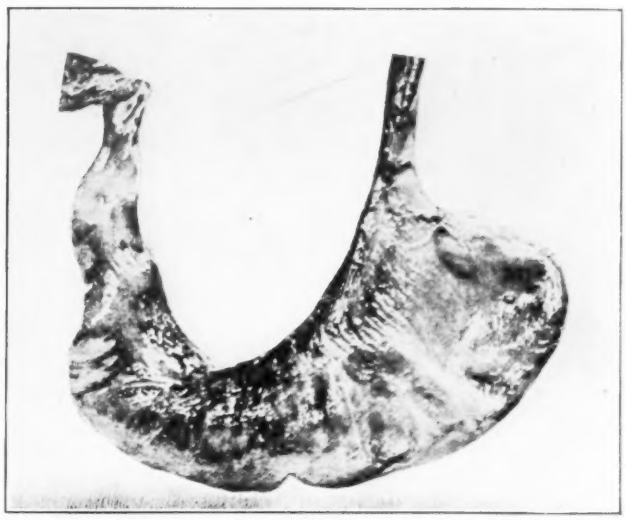

Fig. 3.—Child 9½ weeks old. Stomach dilated and reaching to ½ in. above umbilicus; esophagus dilated, diameter 3/16 in.; suggestion of hour-glass stomach. Pylorus, 1⅞ in. in circumference, ⅝ in. in diameter. Pylorus enormously hypertrophied, 3/16 in. in diameter. Mucous coat showed a condition of chronic catarrh. Muscular coat thickened. (John Thomson, Edinburgh Hospital Reports, vol. iv, p. 117.)

Fig. 4.—Child 9½ weeks old; same case as in Figure 3. Showing the thickening of the pylorus and the longitudinal folds of mucous membrane. The duodenum is seen distinctly marked from the pylorus. (John Thomson, Edinburgh Hospital Reports, vol. iv, p. 117.)

study of each symptom in a given doubtful case should be made and a painstaking experimentation should be undertaken with the nourishment of the baby both in time of feeding, quality of nourishment and quantity fed. If these measures fail and the baby loses in weight or gains only intermittently, and if persistent vomiting is present, stenosis of the pylorus is to be strongly suspected.

No one sign should be accepted as diagnostic. A pyloric tumor may be simulated by an enlarged gland,

but the gland will be less well defined, deeper seated and not associated with the other symptoms. The picture as a whole, the composite picture, is to be regarded, and then by the process of exclusion the diagnosis reached.

The fact that a baby on breast milk vomits persistently should be looked on with suspicion. Each of the signs found in cases of pyloric stenosis may be present in cases of infantile indigestion or dyspepsia, but the particular phase or quality, if I may so express it, of

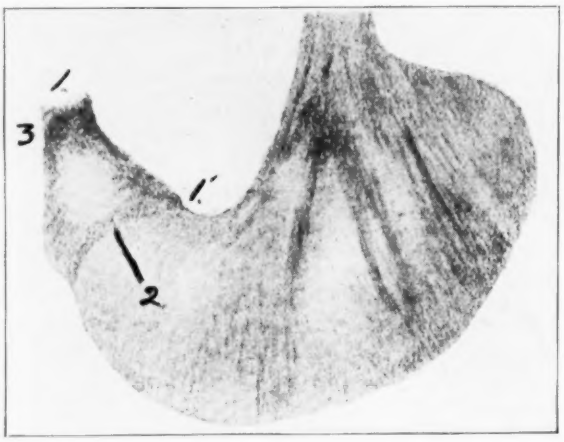

Fig. 5.—Representation of condition found at operation. Child 6 weeks old. Breast fed; vomited from birth. Dilated stomach, visible peristalsis; great emaciation. Note the firm funnel-shaped ring of the pylorus and the situation of the incision for doing a Loreta operation. (Nicoll, British Medical Journal, 1900, vol. ii.)

Fig. 6.—Lower stomach that of a child 3 months old in which vomiting began at the fifth week. A pyloric tumor was felt before death, the stomach was dilated and visible peristalsis was present. Operation refused. Note greatly hypertrophied pylorus and dilated stomach. Above is stomach of child 14 months old for comparison. (Fisher and Neild, Bristol Medico-Chirurgical Journal, June, 1904.)

symptoms characteristic of pyloric stenosis is absent in dyspepsias of infancy. It is not only the pyloric and stenotic quality of the various symptoms, but the sequence and combination of symptoms which is of diagnostic importance.

It seems to me that a discriminating interpretation of these particular symptoms in childhood hitherto has not been made by the general practitioner, as it is only beginning to be made by the pediatrist.

It is the sequence of certain simple commonplace signs in suspected appendicitis which leads one to a correct diagnosis.

Rolleston and Crofton-Atkins[20] report cases of pyloric stenosis in which convulsions occurred similar to those

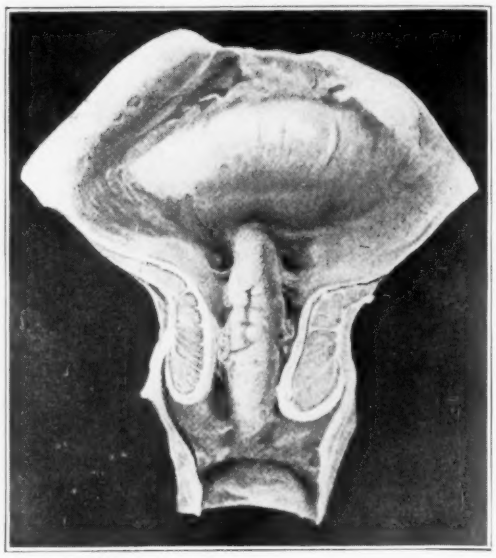

Fig. 7.—Specimen of part of a stomach, pylorus and duodenum, natural size, from a child of 11 weeks with hypertrophy of the pylorus. Note the excessive thickening of the circular muscular fibers and the longitudinal fold of mucous membrane which, when the pyloric cut surfaces are approximated, almost blocks the opening. (Cautley and Dent, Medico-Chirurg. Trans., vol. lxxxvi.)

seen in cases of gastric tetany, and it is not unlikely that these cases were instances of true gastric tetany.

There is evidence to suggest that the infantile pyloric stenosis may persist in chronic form from childhood

Fig. 8.—Stomach and duodenum at term, pylorus opened longitudinally. Note abrupt ending of pyloric muscle on duodenal side, longitudinal folds of mucous membrane and thin duodenal wall.

and then may appear as either an acute or chronic stomach affection. There also is evidence which suggests that the infantile stenosis may exist through childhood without any very striking manifestations of its presence and may become apparent in adult life as a chronic stomach difficulty.

20. Rolleston and Crofton Atkins: British Med. Jour., Dec. 22, 1900, p. 1768.

Beardsley's historical case, in which a child lived to the age of 5 years with symptoms of stenosis from birth, is an illustration in point. The autopsy report corroborates the clinical evidence that this case was one of pyloric stenosis continuing from infancy to childhood.

Hansy[21] operated on a boy, aged 11 years, who had had gastric disturbances from birth. A dilated stomach, vomiting and emaciation were the chief symptoms. At operation a tumor of the pylorus was discovered 7 cm. long and 2.5 cm. thick. There were no cicatrices, adhesions or ulcerations suggesting a previous inflammatory process. Hansy properly regards the case as one of pyloric hypertrophy.

The cases of Seefish[22] and Sonnenberg[23] are pertinent in this connection.

Just here the evidence from Shaw's[24] case is extremely important. A child from infancy till the age of 5 years had recurring digestive attacks suggesting pyloric stenosis. Finally he died. Autopsy showed no lesion other than a hard pyloric tumor three-quarters of an inch long. The lumen of the pylorus admitted only a fine probe, and fluids could not be forced through the pyloric lumen. There were no ulcerations or evidences of old inflammatory processes. It was a case of hypertrophy of the pylorus, persisting and eventually causing death because the obstruction was unrelieved.

The results of the pathologic investigations of Maier[25] and Landerer have been adduced to demonstrate that some of the stenoses of adults have their origin in infancy and are in fact congenital. The work of these pathologists, however, is not to be accepted as final on this point, for their observations are unassociated with clinical evidence. It seems to me that Robson's adult case is not proved to be one of infantile hypertrophy.

(To be continued.)

ANKYLOSIS.

ARTHROPLASTY—CLINICAL AND EXPERIMENTAL.

JOHN B. MURPHY, A.M., M.D.,
CHICAGO.

(Continued from page 1582.)

CASES 1 and 2, Mr. W. D., aged 21, occupation, barber, was admitted to Mercy hospital July 9, 1901.

Present Illness.—This began in November, 1900, with high fever and very severe pains in the lumbar region. Shortly after onset the trouble extended to the hip, wrist and shoulder joints of both sides. He was confined to bed for six months. About one month after the onset both knees became affected. They were swollen and painful and for four months they were kept at rest in full extension. When the inflammatory process subsided both knees were stiff and this condition persisted. Since then he has walked only with the aid of crutches because of severe pain in the knees when his full weight is thrown on them. The trouble in the other joints subsided without ankylosis.

Previous Illness.—Two months before the onset of the present illness he contracted an acute gonorrhea, which persisted for about two weeks. Family history is negative.

Examination.—Both knee joints were ankylosed in full extension and permitted of no active or passive motion. Both patellæ were firmly ankylosed to femur.

First Operation.—On July 13, 1901, the patient was anesthetized and the adhesions in both knee joints were broken up by forcible manipulations. Passive motions were practiced daily after this but the adhesions rapidly reformed.

Second Operation.—Oct. 5, 1901. The usual preparations were made. Esmarch's constrictor was placed around the thigh and a vertical incision was made over the outer side of the right knee from 6 inches above to 3 inches below the joint. The incision was deepened and the capsule of the joint was opened (Fig. 11).

The patella was freed on the outer side, from fibrous adhesions to the femur with scalpel and chisel, and a second vertical incision 4 inches long was made over the inner side of the joint which was opened. The patella was then freed on its inner side from the articular surface of the femur. The ligamentum patellæ was not divided. The patella was elevated, the knee flexed and the adhesions between the tibia and femur were divided to give free motion in the joint. A large flap of fascia lata with a thin layer of muscle attached, was dissected from the outer surface of the vastus externus, its base being below and anterior. The flap was then turned over the

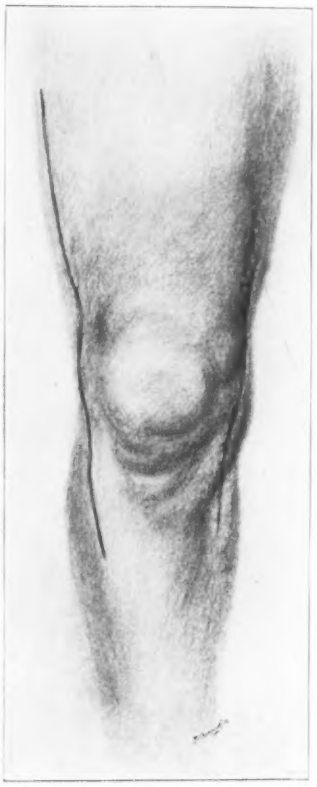

Fig. 11.

Fig. 12.

Fig. 11.—Case 1: Showing incisions on outer and inner surfaces of right knee.

Fig. 12.—Case 1: The facial flap, with its pedicle below, has been turned into the knee joint.

outer condyle of the femur and then drawn through the joint between the two bones by means of heavy catgut sutures, previously passed through its free edge and through the fibrous capsule on the inner side of the joint. The sutures were tied in the inner incision (Figs. 10 and 11).

A small flap of fascia covering the vastus was dissected free in like manner and was placed between the patella and the femur. The flap was secured to the capsule with catgut sutures. The Esmarch bandage was removed and the bleeding points were secured. Subcuticular catgut sutures were used to close skin wounds. A small drain was left in the upper angle of the external wound. Dressing and bandages were applied. The knee was immobilized in full extension by means of a posterior molded cast of plaster of Paris.

Result.—Convalescence after operation was uneventful and the wounds healed by primary union. The cast was removed permanently after three weeks. The joint was massaged and

21. Hansy: Wien. klin. Wochft., 1900, No. 10; Centralbl. f. Chirurg., 1900, No. 41, p. 1036.
22. Seefish: Centralbl. f. Chirurg., 1904, vol. xxvii, p. 81.
23. Sonnenberg and Rosenheim: Berlin. klin. Wochft., vol. xxxvi, 1899, No. 32, p. 703.
24. Shaw: Brooklyn Med. Jour., May, 1903, p. 211.
25. Maier: Virchow's Arch., vol. cii, p. 413.

put through passive motions each day after the first week. On November 13, the patient was again anesthetized and the knee forcibly flexed and extended several times.

Third Operation.—An operation similar to the one just described was performed on the left knee February 22, 1902. The cast was removed from the left knee March 19, and daily passive motions were ordered. He began to walk with the aid of crutches on April 8. April 12 he was anesthetized and both knees flexed to an angle of 30 degrees. Both patellæ were freely movable and motion in the joints was quite free. On June 5, this procedure was repeated.

Fourth Operation.—On August 27, the internal ligament of the left knee was divided with a long narrow bladed scalpel and the patella was separated from the scar. The joint was then forcibly flexed several times until motion was perfectly free. On October 30, both knees were again put through passive motions under anesthesia. The patient left the hospital Dec. 4, 1902. At that time he was able to walk without cane or crutch, had motion in both knees to the extent of between 10 degrees and 15 degrees, and both patellæ were perfectly free.

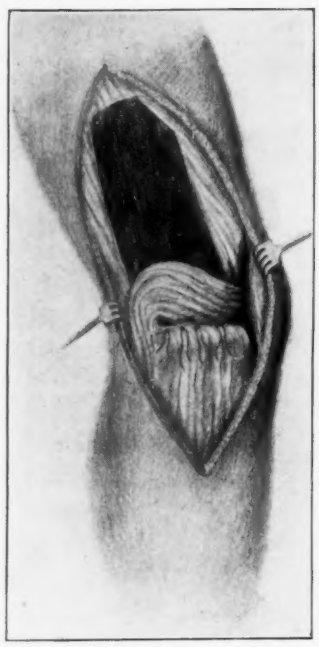

Fig. 13.

Fig. 14.

Fig. 13.—Case 1: Edge of flap sutured to capsule of joint in outer incision.

Fig. 14.—Case 1: Edge of flap sutured to joint capsule in inner incision.

Result.—In a report received from this patient June 23, 1904, he states that he works every day, and that he is on his feet continuously for twelve hours each day. There is no swelling in the knees and he has no pain. After being on his feet for 12 or 14 hours there is some soreness in the knees, but this disappears during the night. He walks without cane or crutch. He says the motion in the right knee amounts to about "3 or 4 inches," and in the left to "about 1 inch."

CASE 3.—Mr. J. H. M., aged 38, occupation, contractor, was admitted to Cook county hospital, October 30, 1901.

Present Illness.—One year ago the patient was shot three times, one of the bullets entering the left leg over the patella. The patella was not fractured, but the bullet passed through the knee joint and lodged beneath the skin under the inner tuberosity of the tibia. It was removed 17 days afterward. Patient says that there was no suppuration in any of the wounds, but that he had severe pain in the knee joint and that it was extremely tender to pressure. After removal of the bullet, the leg was put in a plaster cast with knee extended and the cast was left on for about five weeks. Another cast was then applied and was left on for one month. When this cast was removed the leg was stiff and has remained so ever since.

Examination.—There was slight swelling about the left knee joint, bony ankylosis of the patella to the articular surface of the femur, and firm union between the tibia and femur. There was no irregularity in the shape of the patella.

Operation.—Nov. 1, 1901, arthroplasty, similar to that described under Case 1, was performed. No drainage was used. (This was an error, considering the extensive dissection necessary in the operation and the subsequent oozing that took place from the bone.)

Result.—Suppuration developed eight days after the operation, when the removal of a few sutures allowed a considerable quantity of seropurulent material to escape. The exact cause of the infection was unknown, but in all probability it was due to some error in the preparation of the dressing material or catgut. Feb. 18, 1902, there was still slight discharge from the wound where the drainage tube had been inserted. Slight motion was present in the knee joint, but the large amount of fibrous tissue which had formed as a result of the suppuration prevented more than about 2 degrees. There was no return of the bony ankylosis, notwithstanding the suppuration. (We have been unable to locate this patient since Feb. 18, 1902.)

Fig. 15.—Case 1: After operation on right knee, wounds healed.

Fig. 16.—Case 1: Showing degree of flexion in right knee after operation.

CASE 4.—J. A., Marysville, Wash., aged 12 years, a school boy, was admitted to Mercy Hospital July 24, 1902. Family and previous history is negative.

Present Illness.—On Dec. 26, 1900, the patient was shot in the abdomen, two inches below the navel, with a 22-caliber gun. The gun was directly in front of him and about 12 feet distant. There was no wound of exit. Operation was performed at once by Dr. W. C. Cox, Everett, Wash.; ten perforations of the intestines were sutured and the abdomen was drained. Recovery from the operation was good. While in bed the boy complained of great pain in the right hip, knee and ankle, and on this account he was allowed to lie with his knee flexed at an acute angle and with the thigh at right angles to the body. The hip gradually became ankylosed in this position, and has remained so to the present time. He still has considerable pain in the right knee and ankle. A small sinus at the lower end of the abdominal incision has never healed and a slight purulent discharge from it has continued. No gas or fecal matter has been noticed. When he was allowed to get out of bed he was unable to use the right leg and thigh, both of which were flexed at right angles. In March, 1901, the pain became less severe in the hip joint, and forcible extension was attempted, but was found to be impossible. In October, 1901, the bullet was passed from the bowel, evidently having ulcerated into it from its place of lodgment. For the past year the patient has been able to walk only with the aid of crutches.

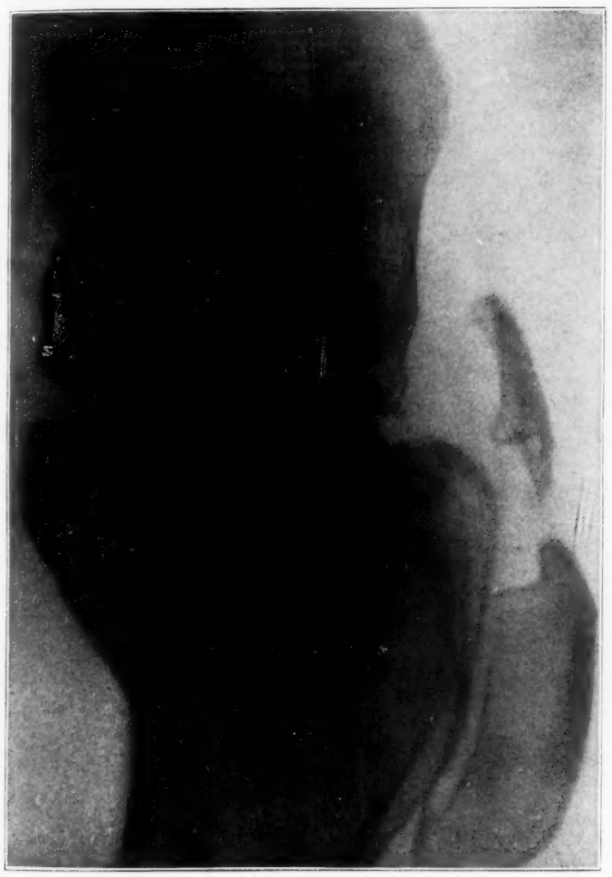

Fig. 17.—Case 1: Radiograph of right knee after operation, showing free patella and free tibia. The clear spaces between the bones show that ankylosis has not recurred.

Fig. 18.—Case 1: Radiograph of left knee after operation (May 8, 1904), showing fibrous attachment between tibia and femur. Patella is free.

Examination.—Patient is a poorly nourished boy; temperature, 99.4°. There was a small sinus at the lower end of the scar, discharging a small amount of pus. A probe was inserted through the sinus into right pelvic fossa and dead bone was detected. There was resistance in the right iliac region. The right thigh was flexed on the abdomen at nearly a right angle, abducted 5 degrees and firmly ankylosed. There was no motion in the hip joint, and attempts at passive motion were painful. The thigh was atrophied. Spine was normal.

First Operation.—July 26, 1902, a probe was inserted through the sinus down to the bottom, and dead bone was found. An incision 4 inches long was made over the right iliac crest, and the periosteum on the inner surface of the ilium was dissected upward for 5 inches in the directon of the sinus. When the sinus was reached, the periosteum and peritoneum were retracted upward and inward, exposing the opening into the acetabular cavity. This opening was enlarged with the chisel, and a small piece of dead bone was removed. The acetabular cavity was drained with a strip of gauze, the periosteum and peritoneum were allowed to fall back into place and the external wound was closed with interrupted silkworm-gut sutures. Some discharge persisted after the operation, and the wound was not healed when the patient left the hospital, Aug. 25, 1902.

Result.—The patient re-entered the hospital Sept. 30, 1902, with both sinuses still open and discharging a small quantity of pus. The sinuses were irrigated every other day. He was also given *x*-ray treatments to the right lower abdomen and hip.

Second Operation.—Nov. 29, 1902, a probe was passed through the original sinus in the median line down to the acetabulum. The acetabular cavity was curetted out thoroughly and a perforated rubber tube was inserted for drainage. At this time the outer wound had completely healed. The sinus was irrigated and the *x*-ray treatments were continued. Some discharge persisted after the tube was removed.

Third Operation.—Feb. 11, 1903, an incision was made through the outer margin of the right rectus muscle externally to the sinus. The peritoneal cavity was entered; the opening into the acetabulum was located from the peritoneal side and, after protecting the general cavity by means of coffer dams, the opening in the bone was enlarged directly through the posterior parietal peritoneum. The entire necrotic head of the femur was found lying free within the acetabulum. The head was extracted entire, the granulation tissue was curetted out and a drainage tube was inserted through

the old sinus into the acetabular cavity. This sinus was extraperitoneal and passed external to the internal iliac vessels. The opening in the posterior peritoneum was closed with catgut sutures and the anterior incision in the usual way. No drainage of the peritoneal cavity was used.

Fig. 19.—Case 4: Radiograph of right hip before operation, showing bony union between neck of femur and ilium.

Fig. 20.

Fig. 21.

Fig. 20.—Case 4: Photograph taken one year after operation, showing normal degree of active flexion.

Fig. 21.—Case 4: Photograph taken one year after operation, showing normal degree of extension, with 1½-inch shortening.

Result.—March 24 the sinus closed completely and permanently. A skiagraph of the hip taken April 25, 1903, shows that there is complete bony union between the neck of the femur and the ileum (Fig. 19).

Fourth Operation.—This operation for relief of the ankylosis was performed May 2, 1903. The usual aseptic preparations of the right hip and thigh were made. A U-shaped incision was made, 5 inches wide with its base upward, beginning 4 inches above the trochanter and extending downward 2 inches below it. The trochanter was exactly in the center of the U. The incision was through the skin, superficial fat and fascia lata, and these tissues were dissected upward as one flap. A long, curved needle, threaded with heavy silk, was passed around the base of the trochanter beneath the muscles attached to it, and by means of this carrier a chain-saw was brought into position. The trochanter was then sawn off and retracted upward. The capsule of the joint was next incised and separated from the ileum all the way around. The attachment of the gluteus maximus was not disturbed. The bone was examined, and the neck of the femur was found to be continuous with the margin of the acetabulum by firm

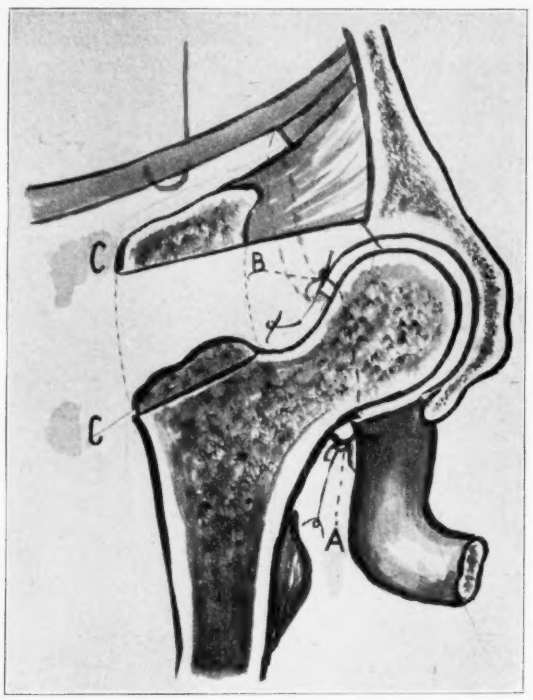

Fig. 22.—Case 5: Great trochanter (C), with its attached muscles turned upward. The fascial flap surrounds the head of the femur and is sutured to the capsule at A and B.

bony union. The formation of a new head for the femur and a new acetabular cavity was the next step in the operation, and was accomplished in the following manner: The bony tissue filling the acetabulum was chiseled free from the latter by following around its margin (the line of junction with the neck) with a carpenter's curved chisel, 1½ inches in diameter. The chisel each time was driven in obliquely toward the fossa acetabuli, the object of this being to make the new femoral head as nearly spherical as possible. When the chiseling process was completed, the new head was entirely separated from the sides of the acetabulum and was attached only at the bottom by a narrow bridge of bone. This bridge was fractured by forcible abduction of the limb, after which the head was dislocated from the cavity by external rotation of the thigh. The shape and contour were almost exactly those of a normal femoral head, except for a few sharp, bony projections which were removed by means of a bone-cutting forceps. Examination of the acetabulum showed that the opening at the bottom, through which the necrotic bone had been removed, was entirely closed by a deposit of new bone. A curette was used to smooth off the irregularities produced by

the chisel and to enlarge the cavity. The fascia lata which formed a part of the original U-shaped flap was now dissected away from the subcutaneous fatty tissue down to its base, where the vessels entered to supply it with blood. The flap of fascia was then drawn down under the head of the femur and carefully fitted into the acetabular cavity to form a complete lining for it. The under surface of the flap, one-half inch from the edge, was sutured to the joint capsule around the acetabular margin with interrupted catgut sutures to secure it and to prevent its subsequent displacement.

The new socket being in readiness, the head of the femur was returned to its normal position by extension and adduction of the thigh. It was found to fit accurately and it could not be dislocated by any of the ordinary motions of moderate degree. The free border of the fascial flap, which projected from the margin of the acetabulum, was now sutured with

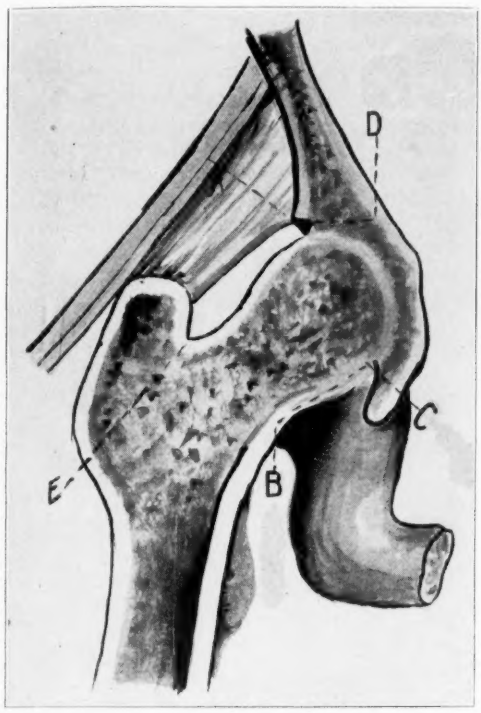

Fig. 23.—Case 5: Showing bony union between head of femur and acetabulum. In separating the bones the chisel was entered at points C and D.

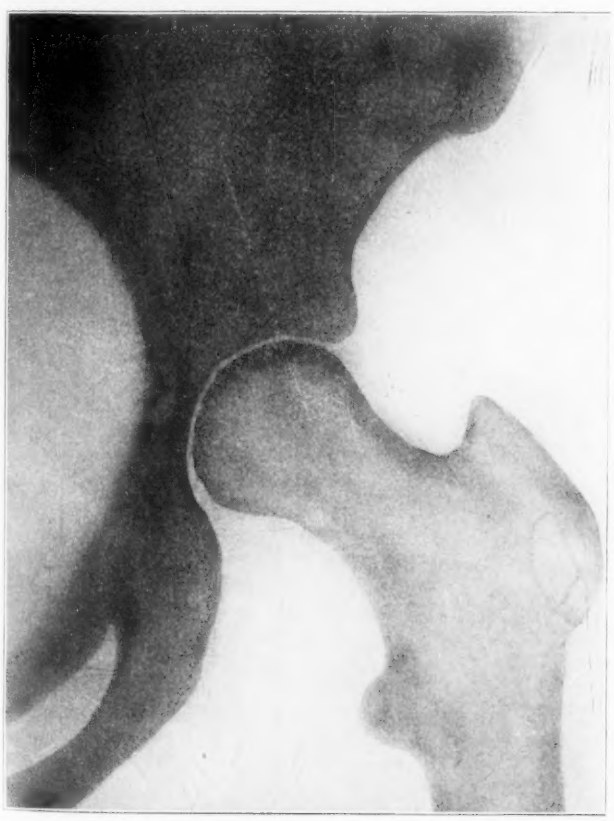

Fig. 24.—Case 5: Radiograph of right hip after operation, showing free joint cavity.

Fig. 25.—Case 6: Radiograph of left knee before operation, showing posterior subluxation of tibia and union between bones.

Fig. 26.—Case 6: Photograph after operation, showing the knee extended and posterior subluxation reduced.

interrupted catgut sutures to the periosteum and the capsule was attached to the neck of the femur. The flap was amply large so that it completely covered the head and came well up onto the neck without tension. (I consider this a very important point; the entire articular surfaces of the bones must be covered by fascia if we are to expect a good functional result, and the same applies to other joints.) The great trochanter was brought down to its normal position and accurately secured with two aluminum bronze wire sutures. The skin flap was replaced and sutured with horse hair. No drainage was used. Because of the contraction of the flexors and abductors of the thigh, extension and abduction were limited and were accomplished only by the use of considerable force. This contraction was overcome by forcibly stretching the muscles, using the thigh as a lever and at the same time exerting with the edge of the hand strong pressure, combined with a sawing motion, over them near their points of origin, after the Lorenz method. The sartorius was divided with the scalpel close to its attachment to the anterior superior spine of the ilium. To retain the limb immobilized until the firm union of the parts was secured, a plaster cast was applied, including the pelvis and entire limb in full extension and abduction.

Fig. 27.—Case 6: Radiograph of left knee nine months after operation, showing separation of bones and perfect reduction of subluxation. Patella free.

Result.—The patient was put to bed and a Buck's extension, with 10-pound weight, was applied to the right leg. The wound healed by primary union. On May 20 the cast was removed and examination showed great freedom of motion in the hip joint. After June 13 the Buck's extension was removed during the day, but was kept on at night. He walked for the first time with the aid of crutches on June 22, and continued to walk each day after that. On July 11 examination showed that the hip joint allowed of fully 20 per cent. of the normal amount of rotation and from 20 to 30 per cent. of the normal amount of flexion and extension. The patient left the hospital July 18, 1903.

Subsequent History.—In a letter received from his father May 20, 1904, three photographs were inclosed, showing the range of motion in the hip. The father stated that the patient went to school every day and had not used a cane or crutch for several months. The motion in the hip is free and of normal extent and he has absolutely no pain. The photographs (Figs. 20 and 21) show flexion and extension to be normal. There is about 1¾-inch shortening in the limb, and he wears an elevated sole to compensate for this.

CASE 5.—Miss M. S., aged 26 years, dressmaker, was admitted to Mercy Hospital May 2, 1903. Family and previous history negative.

Present Illness.—This began about eight years ago with an acute inflammatory process of the right hip joint. At that time the slightest active or passive motion was very painful and the region of the joint was extremely tender to pressure. After the third day the intense pain subsided and she was up most of the time. The trouble continued about the same for nine months, and during this time she walked very little without the assistance of a cane or crutch, because of the pain in the hip. As the trouble subsided, she noticed that the hip was stiff and that she could flex the thigh only to a very limited extent. The immobility of the joint gradually became absolute, and at the present time there is no motion at all. Nearly two years ago the same trouble developed in the left hip, but the progress of the disease here was more gradual. Her general health has been good.

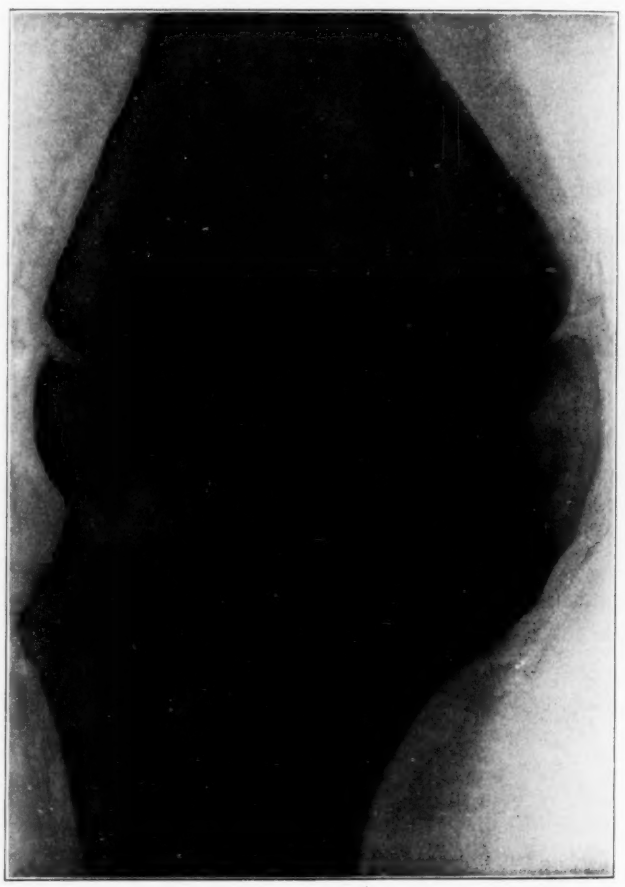

Fig. 28.—Case 6: Radiograph of left knee nine months after operation, showing free joint cavity.

Examination.—The right lower extremity was in full extension and was adducted beyond the middle line, with absolutely no motion in the hip joint. There was some tenderness in the joint on pressure over the great trochanter. The trochanter was in normal position. The muscles of the thigh were somewhat atrophied. Afternoon temperature varied from 99 to 99.6 F.

Operation.—May 21, 1903, arthroplasty, the technic of which was described under Case 4, was performed. In this case the head of the femur was not destroyed, but was united in the acetabulum by bony ankylosis. The bones were sepa-

rated through the lines of union by means of a chisel and mallet (Figs. 22 and 23).

The limb was immobilized in full extension by placing it in a plaster-of-paris cast, and when the patient was returned to bed a Buck's extension was applied. (I believe a better result would have been obtained if the limb had been dressed in a very abducted position.)

Result.—After operation superficial infection occurred, and a small tube was inserted in the upper angle of the wound. The sutures were removed on June 17 and the cast was taken off June 18. On July 27 the left knee became swollen, tender and very painful, and her temperature went up to 101 F. The pain and swelling continued until August 7. On that date the adduction of the limbs which had been present was overcome by placing a wedge between the knees and widening it each day until they were separated about 18 inches. The Buck's extension remained in place until about August 8, when it was removed. Examination on August 8 showed slight motion in right hip joint and considerable atrophy of the muscles of the right leg and thigh (Fig. 24). Faradic electricity and massage of thigh and leg were ordered daily. The patient was allowed out of bed August 15, and was around in a wheel chair every day after that. She walked for the first time with the aid of crutches on December 7, and was on her feet every day after that date. She left the hospital Feb. 15, 1904. At that time the wound was entirely healed and there was free motion in the right hip joint. She was very sensitive to pain and would make no effort to move the joint herself or to bear any weight on it.

Subsequent History.—Examination on June 3, 1904, showed the following condition: The patient is able to rotate the entire lower extremity from hip to extent of 30°. The arc described by the great toe during the rotation is used as measurement. When she stands erect on the left leg with pelvis fixed she can move the right foot forward 18 inches in front of a plumb line from the left hip joint and the same distance posteriorly to it. She is able to bear her entire weight on the right leg without pain, but always uses crutches in walking. She has made no attempt at any time since the operation to dispense with the crutches, because of fear of pain and injury to the hip. When lying flat on her back she can elevate right lower extremity to the extent of raising the heel 2 inches above the level of the table without pain. The wound is at present entirely healed. The muscles of the thigh are atrophied from non-use. The muscular contraction is quite pronounced in this case, particularly the adductors. (In the future when operating on the hip I will dress it in extreme abduction with extension.)

CASE 6.—M. L., aged 9, a school girl, was admitted to Mercy Hospital Aug. 26, 1903. Family history is negative.

Previous History.— She had "measles" four years ago, "whooping cough" one year ago.

Present Illness.—Five years ago, while at play, the patient fell, striking on her left knee. She did not complain much at the time, but two days later she began to have fever and pain in the knee, and a slight swelling developed above the patella. The swelling increased rapidly during the first few days, and at the end of three weeks it was lanced a little below the knee. No pus was found, but the wound did not heal, and shortly after operation it began to discharge a watery secretion, which continued for two months. At the onset of the trouble the knee was bandaged in a flexed position, and no attempt was made subsequently to straighten it. The result was that it became ankylosed at a right angle. Two years ago she was placed under an anesthetic and the leg was forcibly extended on the thigh. A plaster cast was applied and was worn for about one year. When the cast was removed the leg was flexed at an angle of 20°, but this flexion gradually increased until at the present time it is again a right angle. General health has remained good all of the time.

First Operation.—Aug. 29, 1903, all the ham-string tendons of the left leg were elongated by the ordinary method of tendinoplasty and the knee was then forcibly extended. As is usually the case after prolonged ankylosis of the knee at a right angle, there was subluxation of the tibia posteriorly (see Fig. 25).

Second Operation.—Sept. 14, 1903, arthroplasty was performed after method described under Cases 1, 2 and 3. Here, however, the ankylosis was fibrous and was limited to the outer condyle of the femur and to the outer portion of the articular surface of the tibia. The fascial flap, therefore, was interposed between these surfaces only, and its edges were sutured to the joint capsule. Three small foci of ancient suppuration in the articular surface of the tibia on the outer side were removed with the curette.

Result.—September 28 the sutures were removed. The wound healed by primary union. On October 17 there was a slight discharge from the lower end of the inner incision. Patient left the hospital Nov. 30, 1903 (Fig. 26).

Subsequent History.—From the time of the patient's discharge from the hospital until June 2, 1904, she did not report for examination or treatment, and in consequence the important postoperative treatment was neglected. On June 2, 1904, she presented herself at the office for examination. After leaving the hospital she had worn constantly an anterior cast extending from groin to ankle and immobilizing the knee in full extension. No attempt had been made by the patient or by others to increase the motion in the joint. There was a sinus at the lower angle of the inner incision which discharged a small quantity of pus. A moderate amount of swelling existed about the knee anteriorly, but there was no fluid beneath the patella and pressure over the joint was not painful. The muscles of the leg and thigh were somewhat atrophied from non-use. There was free and painless motion in the knee joint, both active and passive, to the extent of from 10° to 15°. The patella moved with the leg during flexion and extension, but permitted of no lateral motion (Figs. 27 and 28). She was able to walk and to run about all day without crutch or support of any kind, and had no pain even after prolonged walking or standing. The cast was removed and the patient was told to exercise the limb and to increase motion in the joint actively and passively.

CASE 7.—Mr. H. C. C., aged 23, electrician, was admitted to Mercy Hospital Dec. 31, 1903. Family and previous history are negative.

Present Illness.—June 21, 1901, the patient fell between two buildings and severely "wrenched his left leg." Immediately following the accident he suffered great pain in his left leg and thigh, but after a few hours he was able to walk and to go on with his work. Three days later he began to have pain in the left inguinal region. This pain persisted and a tender swelling finally developed in the left groin. The swelling was small at first and gradually enlarged until it attained the size of a hen's egg. On October 9 a physician incised it and evacuated a large quantity of pus. The abscess drained for nine months when the sinus healed temporarily. It reopened in July, 1903, and continued to discharge for about a year and a half. After the abscess was drained the patient suffered very little pain, except while running or stooping forward, when he would have some pain in the left hip. On Dec. 16, 1902, he was taken ill with what was diagnosed as "typhoid fever," and was confined to bed for five weeks. Two days after getting out of bed he had a severe chill, followed by fever and by sharp pain in the left hip and knee. He was again confined to bed for three months, during which time the pain in the hip and knee continued to be severe. While in bed, the thigh was flexed on the abdomen, adducted and rotated inward, no attempt being made to correct this faulty position. When, therefore, after three months he attempted to straighten the limb, he found it impossible. He still has a great deal of pain in the hip and knee, especially when he attempts motion, and pressure over the joint is painful. His general health is not good, his appetite is poor and he "cannot gain strength."

Examination.—The patient is of small stature, emaciated and anemic; heart and lungs negative; spine negative. The left thigh was flexed at a right angle on the abdomen, rotated slightly inward and adducted beyond the middle line. All attempts at passive motion of the hip were very painful and pressure over the great trochanter caused great pain. No motion could be demonstrated in the hip joint. The leg was

flexed at a right angle to the thigh and the hamstring muscles were so contracted that extension was impossible. No ankylosis existed, however, in the knee. While this was not a favorable case for arthroplasty, as the tuberculosis was in the active stage, it was decided that the interposition of the fascia lata might hasten the repair of the tuberculous process, as aponeurotic tissue offers great resistance against this type of infection.

Operation.—Jan. 11, 1904. The operation performed in this case, differed from the typical arthroplasty which was described under Case 4 in the following particulars: 1. The tubercular femoral head and adjacent portion of the neck were excised. 2. The tubercular granulation tissue in the acetabulum was curetted out. 3. The fascial flap was sutured over the remaining portion of the neck and the latter was then placed in the acetabulum to form a new head. The edges of the capsule were approximated with catgut, and the limb was forcibly extended and adducted to stretch the contracted muscles of the hip and knee. When the thigh was fully extended and abducted, the end of the neck, or new femoral head, occupied a position beneath the prominent upper border of the acetabulum which held it securely in place and prevented its dislocation upward. A drainage tube was inserted at the lower angle of the wound. The entire limb was immobilized in a hyperextended and slightly abducted position by a plaster cast. The patient was put to bed and Buck's extension with 15 pound weight was applied to leg.

Result.—The skin wound healed by primary union. The sutures were removed on January 25, and the drainage tube January 27. Buck's extension was taken off at the end of the third week. He began to walk with the aid of crutches February 19, but bore no weight on the limb operated on until two weeks later. The cast was removed at the end of the sixth week, and the hip and knee were put through passive motions each day thereafter. On March 26, a small swelling above the left Poupart's ligament was aspirated and several drams of thick pus were withdrawn. Ten c.c. of iodoform emulsion in glycerin were injected into the abscess cavity and the puncture was sealed with collodion. The swelling rapidly diminished in size after the injection and the pain disappeared. April 10, a fluctuating swelling appeared about 5 inches below the inner end of the left Poupart's ligament. This was incised and several ounces of pus were evacuated. The patient left the hospital June 5. At that time he could bear some weight on the limb without pain, but was obliged to use crutches in walking. Examination showed the great trochanter to be in normal position and the limb fully extended, though slightly adducted. The motion in the hip joint though very limited, was perfectly free, showing that no bony or fibrous union had taken place between the neck of the femur and the ilium. I am now convinced that the limitation of motion here, as in some of the earlier cases, is due to the fact that the capsule of the joint was not entirely removed.

(To be continued.)

TOLERANCE TO NITROGLYCERIN.

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PHILADELPHIA.

In a recent issue of THE JOURNAL,[1] there appeared a note concerning the administration of nitroglycerin in which the correspondent (Dr. Maddox) referred to a case under treatment at my service in the Jefferson Medical College in 1888. This patient was an interesting example of rapidly-acquired tolerance to the drug, as he was taking, as remarked by Dr. Maddox, when seen by him in the clinic of Dr. Da Costa, 20 grains of pure nitroglycerin daily. It may be of interest to state that this and similar cases in which marked tolerance to nitroglycerin was easily acquired, I made the subject of several papers some years ago. I reported this particular case in the *Philadelphia Polyclinic* in August and in December, 1888, under the caption of "Remarkable Tolerance to Nitroglycerin." Later, in a paper entitled "Tolerance to Nitroglycerin Easily Acquired: Limitations of Use of the Drug in Chronic Nephritis,"[2] I again drew attention to this case and discussed the restrictions under which nitroglycerin should be employed, and showed how similar effects of blood pressure could be obtained by methods other than the use of drugs. I regarded nitroglycerin then, as now, as a drug which is often of little service, because, despite intelligent employment, tolerance is too readily established. What I then said concerning this bears so directly on the question of the administration of the drug that I regard it as worth repeating here.

In the *Polyclinic*[3] of August and of December, 1888, I related a case of chronic nephritis, under treatment in the medical clinic of the Jefferson Hospital, in which, in less than six months after an initial dose of one drop of a 1 per cent. solution of nitroglycerin, such tolerance has been established that a dose of 50 minims of a 10 per cent. solution (5 minims pure nitroglycerin) was taken four times daily, with less effect on vascular tension than the initial dose of 1/100 grain.

In my experience, too readily acquired tolerance to nitroglycerin is not rare, the difficulty being to so carefully and intelligently regulate its administration that, while maintaining a constant slight effect on blood pressure, the increase in dose is as gradual as possible. In my case, in which 20 minims of pure nitroglycerin were taken daily, the patient had not been encouraged to increase the dose beyond an amount sufficient to produce more than a slight physiologic effect—a feeling of trifling fullness in the head. Yet, despite admonitions as to care in gradual increase, the patient, knowing the nature of his ailment, and believing that great curative power must reside in a drug the name of which suggests so much, and the effects of which on the vascular system were so promptly and powerfully exerted, apparently advanced the dose more rapidly than necessity demanded. Noting this, the drug was several times, at a few weeks' intervals, temporarily discontinued, a much smaller amount being directed to be taken on resuming it than that last used; the increase was also to be very gradual. Notwithstanding this, doses of 50 minims of a 10 per cent. solution four times daily were soon reached and continuously taken without the occurrence of any headache whatever, with but slight transient flushing of the face, and no very marked effect on arterial tension, as shown by the sphygmograph. A dose of 5 grains of pure nitroglycerin (in alcoholic solution) was procured from the apothecary of the hospital and was administered by me before Professor Da Costa and the class in the clinic, so that there could be no mistake as to the amount.

As I prescribe nitroglycerin frequently, I often encounter cases in which I believe similar inconvenient doses could be as promptly reached, with as little systemic effect as in the case just narrated, were a too rapid increase in the dosage to be permitted. When it is desired to employ this drug for a considerable period, for its effects on blood pressure, the best rule of administration, in my opinion, is to so proportion the dose that the intervals are comparatively short—never less than four times daily. The amount, though sufficient to produce some subjective or objective effect, should never be more than just necessary to cause the

1. Feb. 11, 1905, p. 486.

2. Therapeutic Gazette, September, 1893.

3. Philadelphia Polyclinic, 1888, p. 172.

slightest feeling of fullness in the head or to slightly quicken the pulse; these last are certain indications that other desired physiologic effects occur. Unless unusual susceptibility exists, if enough is always taken to produce a more marked immediate result, such as flushing and slight headache, tolerance is soon acquired, and a quantity may be early reached altogether impracticable of administration. When a rather rapid increase seems necessary in order to maintain a constant effect, an equally important point is temporarily to discontinue the drug for two or more days, at intervals of two or three weeks. On its resumption, a much smaller initial dose will be required to produce physiologic effects than that last taken. So used, inconvenient tolerance will be less likely to occur, and the employment of strong solutions, the handling of which is not altogether free from danger, will be less necessary. It must be remembered that nitroglycerin, so far as we know, has absolutely no action in cases of chronic nephritis apart from its effect on vascular tension. It is only indicated in those cases in which the blood pressure is persistently markedly high, and in which ill consequences, such as cerebral hemorrhage or valvular disease of the heart, or stretching of its cavities, are to be feared. Cerebral hemorrhage is a late complication. It requires for its production not only vigorous heart action, but also weakened (generally aneurismal) cerebral vessels. Valvular disease of the slow sclerotic form, commonly mitral, is not infrequently encountered in cases of granular kidney of long duration in which cardiac hypertrophy has kept pace with prolonged arterio-capillary resistance. As Mahomed long ago showed, the pathologic conditions underlying the cardiac condition in these cases is more often recognized than that in which a leaking mitral has resulted from an overstretched ventricle. These various more or less remote sequences of persistent, raised arterial tension—save perhaps the last, to prevent which both nitroglycerin and a heart tonic may be required—are late phenomena, and usually less to be dreaded than certain more immediate results from undue lowering of vascular tone.

It must not be forgotten that probably a moderate amount of tension is actually conservative. It seems to be recognized that those cases of chronic Bright's disease in which tension is persistently low from the outset are actually of much more gravity than the commonly observed variety with raised vascular tone, and when arterio-capillary resistance shows a tendency to fail voluntarily, scanty urine, with more marked albuminuria, and dropsy, may be expected.

In the administration of nitroglycerin these points must be borne in mind, and the drug must not be prescribed merely because the case is one of chronic nephritis. Much more was originally expected of nitroglycerin as a remedial agent in conditions of persistent high tension than has been realized. I now employ it less frequently in such cases than formerly, endeavoring, at first at least, to bring about the same effect by limiting the nitrogenous intake and by maintaining a free action of the skin and bowels. The influence of constipation in heightening blood pressure is well known, but this fact is not always applied in therapeutics, and the modifying effects of diet receive even less attention. Nitroglycerin and the nitrites temporarily lower pulse tension without influencing the ever-present cause. The latter, if not arterio-capillary fibrosis—which is little controlled by any measure—is nitrogenous waste in the blood. Free action of the emunctories tends to overcome this, but the fountain-head must be sought for permanent relief.

I believe I was the first to report the employment of massive doses of nitroglycerin, which, as remarked, although apparently free from danger when reached gradually from initial small amounts, are, however, impracticable and inadvisable. In recent years I have rarely desired to exceed a dose of 10 drops of the 1 per cent. solution, and when from the initial dose of one drop tolerance to the larger dose is apparent, the drug is temporarily discontinued. I regard it as most important that other measures to lower blood pressure be coincidently employed and be tried alone. Especially is it important to restrict the nitrogenous intake, and occasionally to use a mercurial purge, or, more frequently, salines. Aconite is often substituted for nitroglycerin with advantage in these cases.

PERITONEAL GAUZE DRAINAGE.

AN EASY METHOD FOR ITS USE THROUGH THE VAGINA, AFTER ABDOMINAL SECTION.

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The fancied necessity for drainage after abdominal section has been greatly lessened by our knowledge that the peritoneum can easily dispose of considerable amounts of blood and serum and that ancient accumulations of pus are generally sterile. The real necessity for drainage has been greatly minimized by perfected methods of asepticity, by most careful repair of denuded peritoneal surfaces, by efficient hemostasis and control of all oozing, and by avoidance of unnecessary trauma in rude and violent manipulations. Classes of cases that were formerly drained routinely are observed to do quite as well without drainage; yet there is a small minority which requires it.

Abdominal drainage has been very generally abandoned for vaginal drainage when possible, except in general peritonitis, where the very large glass tube above the symphysis, combined with the upright sitting (Fowler's) position, leaves little to be desired. Glass is slow to excite lymph adhesions and a large area is drained longer than by any other material. In operations in the pelvis, drainage through the abdominal incision has the disadvantage of being more remote from the area to be actually drained, and therefore unnecessarily involves viscera that are above the infected site. The more or less inherent dangers of all drainage, i. e., adhesions, intestinal obstruction and fecal fistulæ, are invited.

The likelihood of wound infection from the drain, resulting in hernia, is perhaps the chief disadvantage. About all infected abdominal incisions have subsequent herniæ, which condition is very infrequent in wounds healing aseptically, and without the interposition of a drain. When, therefore, abdominal drainage is used, it is better to bring it out through a separate, small, stab wound, and to close the incision in its entirety. Where the drain must extend for some distance, and adjacent to uninfected viscera, to the point of delivery, gauze should not be unprotected along its whole length. It can be wrapped in gutta-percha tissue, like a cigarette in arrangement, but of any size, or can be encased in a split rubber tube.

In pelvic work drainage through the cul-de-sac into the vagina has the advantage of being very close to the area to be drained, is at the most dependent point, es-

capes through a natural avenue, is devoid of the danger of hernia, and less likely to occasion fistula, bladder disturbance, and secondary obstruction from adhesive bands. It, however, has the disadvantage that the vagina is difficult to render sterile and that infection of the peritoneum may extend from that source. Occlusive protection to the drain from the outside is also somewhat more difficult. The greatest objection to vaginal drainage is the difficulty of making the puncture through the cul-de-sac and of passing the gauze into the vagina. It is this obstacle that I have in my own work, to say the least, greatly overcome, and which is the purpose of this communication to describe.

The usual method of introducing gauze drainage is to have the patient let down from Trendelenburg's position, or unstrapped, if horizontal, the legs flexed, and the assistant, or sometimes the operator, introduces the fingers into the vagina and makes pressure into the posterior fornix with the fingers or forceps. The operator cuts through at the bottom of Douglas' space and passes the gauze down to fingers or forceps. The assistant has to re-sterilize his hands or, better, has to be eliminated from the subsequent steps of the operation. Aside from the time consumed in this method, which is sometimes considerable, the chief objection is that the vagina is often not prepared, and even if prepared there is likelihood of carrying infection from the outside.

Noble of Atlanta simplified the procedure by designing two instruments which he presented at the meeting of the Southern Surgical and Gynecological Association in 1901. One was a counter-pressure instrument, much like an enlarged Hunter's depressor, which was introduced into the vagina and which by pressure fixed the posterior fornix. It could then be punctured by scissors from above with ease and without danger of injuring any other structure. The scissors have a shoulder on the outside of each blade to prevent the margins of the incision from slipping up on the handles as they are opened to stretch the incision to the desired width. This technic relieves the procedure of some of its drawbacks, but the instruments are not in the armamentarium of every surgeon, and if they are, would not always be at hand. I attempted to simplify that feature still further and used, with considerable satisfaction in a series of cases, an ordinary tablespoon, which was inserted into the vagina and made to put the fornix on a stretch, while the blade of a pair of scissors was thrust through from above into the bowl of the spoon.

Unfortunately, in a bad pus case in an 18-year-old girl requiring drainage, the spoon in its introduction folded over the recto-vaginal septum in front of it and in cutting, as I supposed, into the vagina, the rectum was wounded. The resulting fistula into the vagina readily healed, but caused me to abandon the device. It illustrated, however, the efficacy of pelvic gauze drainage in protecting the peritoneal cavity from contamination in injuries of the bowel low down, if for any reason they are not, or can not be, sutured adequately.

In another series of cases, after preliminary disinfection of the vagina, before operations on the abdomen, where the vagina was packed with sterile gauze, I noticed how easily the mass of gauze could be felt and identified from above. In cases where drainage was necessary, I simply cut down on this gauze through the cul-de-sac and attached the drainage gauze to the vaginal gauze by a safety pin, and after closure of the abdomen the drainage gauze was drawn down by withdrawing the original vaginal packing. There are, however, many operators who do not pack the vagina as a routine, and this method has considerable limitations. Many sections are undertaken in which the necessity for drainage is not anticipated; indeed, it is not contemplated in the majority of cases. Sterilization of the vagina by ordinary antiseptic douches is notoriously inadequate. Few men have the vagina "scrubbed up" on the table when the operative procedure is limited to the abdomen, and unless the vagina is prepared beforehand through a speculum, it is usually not in an aseptic condition for the institution of drainage when it finally is determined on.

To obviate all these difficulties in the way of establishing drainage in the usual manner, and as an evolution of the methods heretofore mentioned, I have, for the last year or more, in a considerable number of cases, employed with entire satisfaction the following easy method, which I commend to you.

After the intrapelvic work is completed and drainage is deemed necessary, the gauze is introduced into the cul-de-sac and arranged as desired in plaits, the omentum is drawn down on the right side over the operated area and the sigmoid on the left, and the abdomen closed with the gauze left in. After the abdominal dressings are applied, the patient is drawn with hips to the edge of the table and the vagina cleansed thoroughly, as for any operative procedure. The bunch of gauze can be easily felt as a mass behind the cervix, which is steadied and drawn down with a volsella, and the fornix is opened with one snip of the scissors, cutting directly against the gauze, which is seized with forceps and drawn down. It can be done as quickly as it has been described. It has the advantage of being done under absolute aseptic control from the vaginal side and after the abdomen has been closed from above so that no danger of contamination is incurred. The drainage strip should be tied to the packing in the vagina so that there will be no possibility of ever leaving any gauze behind.

Iodoform gauze should always be used in the vagina, as an effective occlusive dressing is desired. It stays sweet longer than plain gauze. The 1-inch strips of 5 per cent. iodoform gauze with selvedged edge, which come in glass container, have been found most convenient.

The life-history of gauze as a drainage material is very short. The meshes soon become blocked with exudate, and its capillarity ceases. The gauze should not plug the aperture too tightly. The chief function of gauze drainage in a severely infected region of the peritoneum is not so much for its capillarity as for the quarantining of that area from the general cavity by the exudate which is so promptly and effectively thrown out around the area, with the gauze as the excitant. That is nature's plan for segregating all infections. The gauze invites and initiates this very plan.

Occasionally an abrupt rise of temperature occurs when gauze drainage is employed in conditions where free exudation occurs over a long time, and if it is withdrawn, a little quantity of serum will sometimes be found pent up. In cases of that sort, the gauze should be withdrawn a little each day. Generally, however, if gauze drainage is needed at all in the peritoneum, it should be left six days. It can then be easily withdrawn. The walls of exudate around it will be well formed and they are stiff enough to afford a pipelike drain from any septic point for some days without ir-

rigation. If gauze is withdrawn too soon, the fresh granulations will be disturbed and bleeding occurs and atria for fresh infection are opened by the trauma. The external part of the tract may close if not kept open by frequent dressings.

I have not attempted to define the cases which require it, but merely to describe this simpler way of establishing gauze drainage through the vagina.

Special Article

IMMUNITY.

CHAPTER XVI.

PHAGOCYTOSIS.

As one may learn from the writings of Metchnikoff, phagocytosis in its broad sense has three distinct channels of activity: nutritional, resorptive and protective.

Phagocytosis for Purposes of Nutrition.

Phagocytosis for purposes of nutrition is most highly developed in unicellular ameboid organisms, but is found also in animals of considerable organic differentiation. It is perhaps nowhere more striking than among certain myxomycetes, which are large, naked, multinucleated, protoplasmic masses belonging to the plant kingdom, and which possess that peculiar, slow, undulating motility which characterizes the ameboid cells. Ingestion is accomplished through protoplasmic arms (pseudopodia) which are thrown out to envelop the object. Minute plant and animal cells, living or dead, are ingested in this manner by the myxomycetes, amebæ and other unicellular organisms and are subsequently digested by means of intracellular ferments. The ferments which have been extracted are proteolytic, digesting gelatin or fibrin, usually in an acid but sometimes in an alkaline medium; that from amebæ has been called amibodiastase. In the process of digestion a "vacuole," acid in reaction and containing the ferment, forms around the ingested particle. In certain unicellular organisms which are phagocytic the protoplasm shows a degree of differentiation, a mouth and an anus being simulated at points where the food is most readily taken in and discharged. Instances are cited in which ameboid organisms protect themselves against inimical cells by ingesting, killing, and finally discharging or digesting the latter.

Chemotaxis.

Pfeffer first described the phenomena of negative and positive chemotaxis in relation to the myxomycetes. Under certain conditions they either are attracted toward or move from moist places. That a negative chemotaxis may be changed into a positive was shown in relation to salt solutions. When placed in the vicinity of or in contact with strong solutions the cell recedes, whereas if one passes gradually from weaker to stronger solutions the latter eventually attract rather than repel the cell.

Intestinal Phagocytes.

As one goes higher in the animal scale intracellular digestion for purposes of nutrition is confined to rather definite groups of cells. The intestinal epithelium of certain multicellular invertebrates consists of "sessile phagocytes," cells which, individually or after fusion into plasmodial masses, surround and digest solid particles of food. It is said that in sponges the digestive tract is not sharply separated from the mesodermal tissue, and the cells of the latter share with the former the function of intracellular digestion.

Mesoblastic Phagocytes.

In higher invertebrates and in all vertebrates the intestinal epithelium ceases to be essentially phagocytic, digestion being accomplished rather by the ferments which have been secreted by the intestinal and related glandular epithelium. Such animals, nevertheless, possess an abundance of phagocytic cells, but they are in the main mesoblastic in nature, and may have nothing more than a remote relationship to the nutrition of the organism.

Metchnikoff classifies the phagocytic cells of vertebrates into the macrophages and the microphages. The macrophages or large phagocytes include the large lymphocytes, endothelial cells, ameboid connective tissue cells and others which may occasionally take up foreign particles. Our polymorphonuclear leucocytes are the microphages. In relation to immunity we are concerned chiefly with the large lymphocytes (macrophages), and the polymorphonuclear leucocytes (microphages). Although such cells may contain many ferments Metchnikoff recognizes but one type in relation to their resorptive and digestive functions. This he calls cytase and distinguishes that of the macrophage as macrocytase and that of the microphage as microcytase. The two cells do not have identical activities, the macrophage being concerned especially in the resorption of tissue cells and in immunity to certain chronic diseases as tuberculosis and leprosy, whereas the microphage is the cell which is conspicuously antimicrobic in relation to acute infections.

Resorption of Corpuscular Elements.

Metchnikoff has studied the resorption of cells over a wide range of animals. He speaks of the process as the resorption of corpuscular elements. During the metamorphosis of certain invertebrates it is said that the larval tissues are disposed of by the action of wandering phagocytic cells. In involution of the uterus the muscular tissue is invaded by leucocytes which take up and digest or carry away the "retrogressive elements." Perhaps of more interest is Metchnikoff's conception of certain atrophic processes, particularly those which are grouped among the senile atrophies. In sclerotic atrophy of the ovaries the large lymphocytes invade the tissue, surround and destroy the ova and follicular epithelium and eventually, as fibroblasts, participate in the formation of fibrous tissue which to a degree is substituted for the original structure. In old individuals or in those of failing mentality it is said that ganglionic cells are found in a greater or less degree of atrophy because of the action of certain mononuclear phagocytes (neuronophages) which are contiguous to or form a zone around the cell. The neuronophages may represent mononuclear cells from the blood or those of proliferated neurogliar tissue. The best examples of this condition were found in very old dogs.

The Whitening of Hairs.

The chromophores of the skin, according to Metchnikoff, may be considered as chromophages. Whether or not they are of epithelial origin, as he claims, they are said to exist normally in the hairs in a latent or inactive condition. As old age comes on, or as a result of other obscure causes, their attitude becomes an active one, and they proceed to take up and digest the normal pigment of the hairs. Hence white hairs are the result of an autoparasitism by certain mononuclear phagocytes—an atrophic process.

In muscular atrophy it is held that the sarcoplasm takes up the striated tissue after the manner of phagocytes.

Cytotoxins.

We come into closer touch with our general subject of immunity when we consider the attitude of the phagocytes toward cells which are foreign to the host, for example, toward erythrocytes which are injected for the production of a hemolytic serum. Following such an injection into the peritoneal cavity there occurs a great accession of macrophages which ingest the erythrocytes, dissolve the hemoglobin and eventually digest the stroma. The same phagocytes are involved in the resorption of any other foreign cells of animal origin which may be injected. In view of the intracellular hemolysis by the leucocytes one may well suspect that the latter contain a hemolytic ferment; one which perhaps is analogous to the hemolysin (hemolytic amboceptors and complement) of a serum. On this point there has been a sharp discussion. Metchnikoff cites observations to show that a ferment of this nature may be extracted from lymphoid organs, that it contains a heat-susceptible constituent, and that when fresh it may be used to reactivate a heated hemolytic serum. This would indicate that the leucocytes contain cytase (complement), but it is not clear that they would also contain the fixators (amboceptors). Nevertheless the demonstration of an intraleucocytic hemolysin, coupled with the phagocytic power of the leucocytes for erythrocytes, forms the basis for the belief that serum-hemolysin is nothing more than intraleucocytic hemo-

lysin, which under proper conditions may reach the serum or plasma. By an extension of the condition cited it is considered that all cytolysins are produced by the macrophages.

Thermostabile Hemolysin from Organ Extracts.

Korschun and Morgenroth, on the other hand, obtained from lymphoid and various other organs, not a thermolabile hemolysin, but one which withstands prolonged boiling—a coctostabile hemolysin which is soluble in alcohol, shows no amboceptor-complement composition, and is incapable of yielding antihemolysin by immunization. Such contradictory results, Metchnikoff holds, are only in apparent discord with those obtained by himself and his pupils, and are referable to the different methods of extraction which were employed. In order to obtain the thermolabile hemolysin uncontaminated with the thermostabile, the extraction must be a rapid one. If on the other hand it is prolonged, as Metchnikoff assumes that of Korschun and Morgenroth to have been, the intracellular ferments digest the remaining cell constituents, the thermostabile hemolysin being liberated or formed in the process of digestion.

Cytase an Intracellular Substance.

Metchnikoff has utilized experiments similar to the following in order to prove that serum-hemolysin is produced by the macrophage and that cytase under normal conditions is confined to the leucocytes. Given a guinea-pig which has been immunized with the blood of a goose: if fresh goose corpuscles are injected into the peritoneal cavity, the cells are hemolyzed in the fluid without the occurrence of phagocytosis. This is the experiment of Pfeiffer applied to hemolysis, and under these circumstances one must conclude that the cytase and fixators are extra-leucocytic. One of two conditions is possible: either the hemolytic bodies are present normally and continuously in the plasma of the immunized animal, or they become liberated at the time the corpuscles are injected. According to Metchnikoff the latter condition prevails rather than the former. He recognizes a phenomenon which bears the name of phagolysis, i. e., solution, partial or complete, or phagocytes. Almost any foreign substance or fluid which one may choose to put in contact with leucocytes so stimulates or injures them that they discharge certain of their constituents.

Cytase Becomes Extracellular Through Phagolyses.

If the fixators and cytase are among the constituents which are discharged at the time the injection is made, the extracellular hemolysis might depend on these substances rather than on bodies which pre-exist in the plasma. If this be true, and if one could in some way fortify the leucocytes against phagolysis the plasma would remain free from hemolytic power. Metchnikoff prevents phagolysis by a simple procedure, which demands nothing more than the peritoneal injection of a small quantity of bouillon or salt solution twenty-four hours in advance of the experiment. Possibly by this means the leucocytes have been habituated to the presence of a foreign fluid, or the new leucocytes which accumulate possess greater resistance. Whatever the explanation, the erythrocytes which are injected at this critical time are said not to undergo extracellular hemolysis, but instead are englobed and dissolved by the macrophages. These results and others of a similar nature are the basis for the belief that cytase normally is intracellular, and that it becomes extracellular only when the leucocytes are subjected to injurious influences. The fact that the serum of defibrinated or coagulated blood contains cytase is not in discord with such an opinion, for in this instance also the leucocytes may be injured to such a degree that certain of their constituents are discharged. We are well aware that fibrin-ferment is liberated under these circumstances.

Prevention of Phagolysis.

Fixators Produced by Leucocytes.

It was equally desirable, if possible, to determine the relation of fixators to the leucocytes. The situation is, however, very complex, and although Metchnikoff regards the fixators as secretion or excretion products of phagocytic cells the question is perhaps not definitely settled. When phagolysis is prevented in the manner described, the injected erythrocytes may well absorb fixators from the plasma and still undergo no hemolysis until englobed by the phagocytes. It is considered that fixators in contrast to cytase may exist in the circulating plasma.

Phagocytosis in Immunity.

Phagocytosis as a feature of local resistance against microbic invasion was considered in relation to inflammation; we come now to speak of the relationship of the leucocytes to general states of immunity, having reference to the conditions which have been designated as natural and acquired antibacterial immunity, and natural and acquired antitoxic immunity.

Metchnikoff himself says that his first expressions concerning the antimicrobic activity of phagocytes, the power of freeing the organism from "invaders of every sort," were made altogether from an *a priori* standpoint in an address delivered in 1883, "Ueber die Heilkräfte des Organismus." He justified his position on general grounds, having in mind the "more general phenomena of phagocytosis and the resorption of corpuscular elements," as he had observed them in various zoological studies.

Natural Antimicrobic Immunity.

Shortly there came to him the opportunity of studying an infectious disease among the Daphnia (water-flea), a small transparent crustacean. The disease was caused by a blastomyces which forms a long needle-shaped spore. After being swallowed by the animal the spores penetrate the intestinal wall into the body cavity where they are surrounded, englobed and digested by the white blood corpuscles. If this occurred with sufficient vigor all the spores were disposed of and the animal recovered. Sometimes, however, the spores germinated even after they had become intracellular, and when the parasitic cells reached maturity they apparently had the power of killing the leucocytes through the agency of a secretion peculiar to themselves. In the event that the latter process was sufficiently extensive the tissues were soon overrun with parasites and death resulted from a septicemic condition. The observations were made in the living transparent animals.

Although the example cited seemed convincing it was, of course, necessary that observations should extend over many infectious processes before phagocytosis as the cause of natural immunity could be accepted as a general fact. This has been done on rather broad lines by Metchnikoff and his pupils, and the results have served to convince them that the phagocytes are responsible for natural immunity in all instances, and that the degree of natural immunity in a given case depends on the degree of phagocytosis which is manifested against the organism. As stated previously the microphage, with its microcytase, is held responsible for antibacterial immunity in most instances, although the macrophage is concerned in certain chronic infections.

Anthrax.

If an animal is susceptible to a virulent culture of anthrax, but resistant to a weak culture, the phagocytic power is found to be greater for the weaker organism. The highly virulent culture creates a condition of negative chemotaxis with the consequence that leucocytes are not attracted and microbic proliferation proceeds rapidly. Without going into details, studies of the following and perhaps other micro-organisms have strengthened Metchnikoff in his views: staphylococci, streptococcus, pneumococcus, gonococcus, vibrio of cholera in infections of the guinea-pig, the vibrio of goose septicemia in relation to the guinea-pig, which is naturally immune, the spirillum of relapsing fever, tubercle bacillus, yeast cells and other fungi, and certain animal parasites (*Trypanosoma lewisii*).

Toxins as Cause of Negative Chemotaxis.

Most important are certain conditions which create a condition of negative chemotaxis, or otherwise engage the phagocytes so that they refuse to take up the essential organism. Vaillard says that all animals are immune to pure cultures of the tetanus bacillus or its spores provided the latter have been washed entirely free of toxin. The absence of toxin permits of positive chemotaxis, and phagocytosis, whereas toxin when present causes negative chemotaxis, and the bacilli proceed to further toxin formation. The same is held to be true in infections by some other organisms.

It seems definitely established that contaminating organisms (pyogenic cocci, *Bacillus prodigiosus*) may greatly increase the virulence of the bacillus of symptomatic anthrax, *Bacillus aerogenes capsulatus* and the tetanus bacillus—anaërobic organisms. On the one hand the secondary bacteria may produce more favorable conditions for the growth of the anaërobes by consuming local oxygen, or, as Metchnikoff believes, they may so engage the phagocytes that the latter have no disposition to take up the essential organism. This condition may be an important one in other mixed infections, as when the streptococcus complicates diphtheria and scarlet fever.

Accidental Engagement of Phagocytes.

If the phagocytic power is an index of the degree of natural antibacterial immunity, is the same correspondence to be recognized when the immunity is acquired? To answer this question satisfactorily it is necessary to bring phagocytosis in relation to two different types of antibacterial immunity which it is possible to recognize. Cholera is an example of that type of antibacterial immunity in which the bactericidal power of the serum undergoes a great increase. It is stated that anthrax represents another type in which the immunity is not dependent on the bactericidal power of the serum. Probably the same may be said of acquired immunity to the streptococcus, staphylococcus and the pneumococcus, yet it is perhaps not definitely established that the immunity in these instances is antibacterial rather than antitoxic. For the present we may, however, with Metchnikoff, consider that the immunity is antibacterial and that it is a cellular or phagocytic immunity.

Acquired Antibacterial Immunity.

Rabbits which have been immunized against anthrax respond to subcutaneous or intraperitoneal injection of a virulent culture by concentrating so vast a number of microphages at the site of inoculation that the fluid becomes purulent in appearance. Examination shows an enormous degree of phagocytosis. When, on the other hand, non-immune rabbits are submitted to similar inoculations, the fluid which accumulates locally is of a clear serous character, contains few leucocytes, and no phagocytosis is observable; the animals die of a rapidly developing septicemia. From the results one may well suspect that the immunity is related to and perhaps co-extensive with the acquired phagocytic power.

Anthrax.

But is the serum of no influence? It has often been held that phagocytes take up bacteria only after the latter have been injured or killed by the serum or plasma. Metchnikoff answers this objection experimentally by inoculating an immune rabbit with anthrax, withdrawing some of the exudate at a time when phagocytosis is complete, and injecting it into a non-immune rabbit. The second animal dies. Since none but phagocytized bacilli were injected into the non-immune rabbit, and since the latter succumbs to anthrax it seems not only unnecessary, but unjustifiable, to assume that the bacteria must be attenuated by the serum before they can be taken up by the leucocytes. May the serum, nevertheless, have some obscure action which may not be included under such terms as bactericidal and attenuating? It seems fairly well established that anti-anthrax serum, at least from certain animals, may exert a protective influence when injected into other animals in conjunction with or in advance of the culture; yet Metchnikoff discredits the importance of such protection and says that "those properties of the body fluids, as the bactericidal, preventive and agglutinating, fall away into the background in such examples of immunity." It is the tendency of the school of Metchnikoff to refer the protective power of a serum to its faculty of stimulating the phagocytes rather than to its effect on the micro-organisms. We shall see, however, in speaking of opsonins, that even in relation to anthrax the serum may possess a distinct property which facilitates phagocytosis, not by stimulating the phagocytes but by some action on the bacteria.

Phagocytes Take Up Virulent Bacteria.

The Influence of Serum.

Concerning those diseases in which immunity is characterized by a great increase of the bactericidal amboceptors or fixators, Metchnikoff does not disregard the existence or importance of the immune bodies, but rather seeks to establish their genetic relationship to phagocytic activity. The conditions are held to be similar to those already mentioned in connection with *intra vitam* hemolysis. That is to say, microcytase exists only in the leucocytes of the immune animal under normal conditions; it escapes into the plasma, or into the serum during coagulation, only as a consequence of the phagolysis already mentioned. The phenomenon of Pfeiffer occurs only because the injected culture injures the leucocytes, resulting in the liberation of microcytase, which in conjunction with the fixators causes the solution of the vibrio. When phagolysis is prevented by a preceding injection of bouillon, phagocytosis and intracellular solution of the organisms entirely supplant extracellular solution.

Cholera and Similar Infections.

(To be continued.)

Clinical Reports

BRONCHOSCOPY FOR THE REMOVAL OF A COLLAR BUTTON FROM THE LUNG.*

E. FLETCHER INGALS, M.D.

CHICAGO.

Patient.—C. D. H. was sent to me May 23, 1904, by Dr. F. W. Wilcox, of Minonk, Ill. He was a man 22 years of age, who had formerly weighed 142 pounds, but who then weighed 107½ pounds.

History.—He told me that 14 months previously he had accidentally drawn a collar button, presumably of vegetable ivory, into the air passages. He at once felt the sensations caused by it near the upper part of the sternum on a level with the second rib; subsequently he had some soreness in the same place. He expectorated a little blood a few minutes after the accident, and he said that there quickly appeared a peculiar squeak in the breath sounds. Pneumonia developed on the left side within 24 hours and lasted for one month. He had coughed ever since. He had sometimes felt something moving up and down in the lower portion of the trachea and a valve-like action with choking for a few seconds. His father stated afterward that the patient frequently had these choking attacks, coming on without apparent cause and without cough. The last time this sensation had been noticed was 4 months before he came to see me. He said he had been coughing continuously ever since, mostly at night. This was probably due to a change in position of the foreign body. During the summer immediately following the accident he had had an aggravation of his symptoms with daily fever in the afternoon, during which time he had been kept in bed for a week or two. His recovery from that attack had been very slow. When I first saw him he complained of occasional pain in the left side, referred to the second interspace about an inch to the left of the sternum and occupying an area about two inches in diameter. He had felt no pain in any other portion of the chest, except low down on the left side, at the time he had the attack of pneumonia. His previous history was negative. The heredity was good, there being no tuberculosis on either side of the family. He was a twin, and reported that his brother was strong and well.

Examination.—He had been much weakened by his prolonged illness, was pale and very anemic; he had dyspnea on any exertion and had some swelling of the feet. The voice was clear. I found the pulse 120, the temperature 99.6. He complained of coughing a good deal, mostly at night, and said that he raised occasionally a thin sputum of a brick-dust color, but there were only from two to four drams daily. There had occasionally been faint traces of blood in the sputum, but no distinct signs since immediately after the accident. His appetite was good, but digestion only fair;

* Patient presented to the Chicago Laryngological and Otological Society, 1905.

bowels loose, urine normal. There were no abnormal signs in the nares, but the larynx and trachea were moderately congested. The hemoglobin was found to be only 65 per cent. The sputum contained many pneumococci and pus cells, but no tubercle bacilli.

On examination of the chest I found very little movement, with retraction of the left side. The right side, an inch below the nipple, measured from 15¼ to 15½ inches, the left from 14½ to 14¾ inches, but there was no change in the line of dullness on changing the patient's position. The patient said he had been aspirated twice about 8 months ago, but no fluid had been found. There was dullness on the left side above the second rib, except a small area between the first and second, and flatness below that level all over the lung. The resonance and respiratory murmur were exaggerated over the right side. The apex of the heart was found in the fourth interspace one-half an inch to the left of the mammillary line. On the left side there was bronchovesicular respiration in the supraclavicular region. From the clavicle to the third rib the breath sounds were very indistinct; below this they could not be heard at all. The voice sounds were exaggerated above the left clavicle and they were quite distinct as low as the second interspace; but they were somewhat feebler over the remainder of the left lung than over the right side. The vocal fremitus was absent below the third rib. The heart's action was rapid and regular and the sounds were normal. Posteriorly there was marked dullness at the left apex extending an inch and a half below the spine of the scapula, with absolute flatness below this line. The resonance and respiratory sounds were exaggerated on the right si e. There was bronchovesicular breathing at the apex of the left lung, though not very intense. On forcible respiration very often breath sounds could be heard as low as the low border of the left lung.

Fluoroscopic examination showed a dense shadow all over the left side, excepting a small area in the infraclavicular region, where the shadow was less marked. I sent the patient to the Presbyterian Hospital and had a skiagraph made, but nothing could be seen, the lung being so dense that even the ribs did not cast a shadow near the root of the lungs. Three other negatives were taken with similar results.

Treatment.—On the afternoon of May 23, assisted by several of the internes, I gave the patient chloroform, and by upper bronchoscopy attempted to remove the button. Although I had previously given the patient one-sixtieth of a grain of atropin, there was still abundant secretion in the trachea and a large amount of expectoration. Indeed, he coughed practically all of the time during the operation, which lasted from the time the chloroform was started until I desisted, in all about two hours. During this time he spat up large quantities of bloody pus, which was only kept out of my eyes by placing a pane of glass between my face and the bronchoscope. The pus rendered it very difficult to see what I was doing and compelled me to swab out the passages almost continuously. After swabbing out the pus I could only get two or three seconds before he would cough again. This seemed to result from the passage of the bronchoscope into an abscess. The patient took the chloroform so badly that we were not able to keep him profoundly under it, and I frequently touched the bronchial tubes and the walls of the abscess cavity with a solution of cocain, but the amount of pus was so great that it had little effect. In the examination of the left lung I was unable to see the numerous branches of the bronchi that are usually apparent, though I followed one of the branches far down until the bronchoscope was introduced its full length, 33 cm. below the incisor teeth. I searched carefully by inspection and palpation with a small hooklet but was unable to locate the foreign body. There was considerable granulation tissue about the bifurcation of the trachea that for some time interfered seriously with the inspection, and one mass presented the appearance of a small polypus which nearly filled the bronchoscope. I had not yet been told of the peculiar choking spells and, therefore, did not have in mind anything of a polypoid nature in that region. The mass that I saw I did not dare to remove, fearing that it might be connected with the bronchus in such a way that I would open through the tube and cause a pneumothorax. During the operation a part of the time I used for removing the pus a strip of one-inch gauze, which was crowded down the bronchoscope with a large wire, the end of which had been flattened and forked, like that used in the ordinary uterine packer. This worked fairly well, but much of the time I used cotton swabs attached very securely to long brass carriers. At one time in swabbing out the pus the sliding ring for fastening the cotton on the carrier caught on the end of the bronchoscope and I had a little difficulty in disengaging it. As the swab was withdrawn I examined it and found the swab of cotton intact, but it seemed to me a little smaller than the others. However, I concluded that this was due simply to its having become saturated with pus. Some time later I discovered at the end of the bronchoscope a white mass which looked like a large swab of cotton. I grasped this with the forceps and withdrew it, thinking it must be a pledget of cotton that had been lost off at the time the instrument caught. Not wishing to direct attention to the interne who had been fastening the cotton on the carriers, and who, by the way, was one of the best men in the hospital, I simply called his attention to it by a look and threw it aside without examining it. This mass appeared fully twice as large as any of the pledgets of cotton after they had been saturated with the pus, and, considering the subsequent history, I am now confident that it consisted of the collar button surrounded with necrosed lung tissue.

Result and Subsequent History.—During the operation the patient's pulse varied from 110 to 150, but all the time was fairly full and regular. Immediately afterward he appeared to be doing well. The next day there was no temperature and the patient said he felt fine. Two days later he was discharged and went to his home in the country. Two weeks later I received a report that he was improving very rapidly, did not cough excepting a few times in the morning, had a ravenous appetite and had gained 11 pounds. A month later another report stated that he was feeling fine and had gained 22 pounds. Two weeks later he came to see me so changed in appearance that I did not know him. He coughed very little, indeed, had no pain, no dyspnea on exertion, had a ravenous appetite and weighed 130 pounds. An examination of the left chest showed only slight dullness from the second to the sixth rib, showing that the lung had cleared up greatly from the third to the sixth rib; flatness below the sixth rib, otherwise in front and laterally signs over the chest were much as at the first examination, except that the apex of the heart was found about 1¼ inches to the left of the mammary line. Posteriorly the respiratory sounds were good over the left lung as low as the eighth rib, but feeble or absent below that level. The fluoroscope still showed a shadow over the left lung, but much less dense than formerly.

In response to a letter the patient called on me recently. He said he had been working 12 hours a day since September, had no cough, no temperature, felt fine and weighed 136 pounds. Examination of the chest showed very slight diminution of resonance over the left side as low as the sixth rib in front and laterally, and as low as the eighth rib, posteriorly, with a vesicular murmur in the same region about two-thirds as intense as on the right side. The lung was somewhat contracted and the heart drawn from 1½ to 2 inches to the left of its normal position. No respiratory sounds could be heard below the eighth rib posteriorly, probably due to drawing upward of the lung and diaphragm. The normal superficial area of cardiac dullness had disappeared over the right half of the lower part of the sternum on account of the increased activity of the right lung and the dislocation of the heart to the left caused by retraction of the left lung. The patient felt perfectly well, and, considering the history, I feel justified in reporting the operation as a complete success, although I did not at the time examine critically the mass that seemed to have been causing the trouble.

34 Washington Street.

AN UNUSUAL MANIFESTATION OF MALARIA.

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The following report is submitted with the hope that it may prove of value to those who are especially interested in the study of malaria—particularly of its unusual manifestations.

Patient.—Private G., about 11 a. m., Jan. 23, 1905, complained of an extremely severe headache, which had first appeared between 9 and 10 o'clock that forenoon, and which had rapidly increased in severity until at the time he applied for treatment it had become almost unbearable. The pain was especially severe in the temporal regions. The man further stated that previous to that morning he had been in his usual good health.

Examination.—The patient was admitted to the hospital; the temperature was normal. He was carefully questioned with regard to his appetite, digestion and action of his bowels, and all seemed to be perfectly normal. He felt certain that he had eaten nothing unusual or which might have given rise to some digestive disturbance. Nothing abnormal was revealed on examination.

Treatment.—The patient was put to bed and his bowels thoroughly evacuated by means of purgatives and enemata. A cold compress was applied to his head and his diet was restricted to liquids. By 3 p. m. on the day of admission his headache had practically disappeared, and by 6 p. m. he felt quite as well as usual.

Subsequent History.—On the morning of January 24 the patient felt quite well until about 9 o'clock. At that time his headache reappeared and gradually increased in severity until, according to his statement, it was even worse than on the preceding day. His temperature remained normal. He was carefully questioned at this time in order to determine whether or not there was a possibility that his headache might be of malarial origin. He stated that he had been born and raised near Altoona, Pa., and had never been any farther south than West Point, Ky. He was positive that he had never suffered from malaria, "ague," "chills and fever," or any disease of that nature whatsoever. He further stated that he had never, at any time during his life, been in the immediate neighborhood of cases of malaria, ague, etc., occurring in other people. In view of the patient's positive statements, together with an entire absence of temperature, and especially in consideration of the fact that the patient's disability had arisen in the very midst of an Alaskan winter, in a section of the country where, even in its warmest season, malaria is practically unknown, the idea of a blood examination seemed so utterly futile that it was dismissed without further thought.

During the succeeding five days, January 24 to 28 inclusive, the patient's headache continued, usually coming on between 9 and 10 o'clock a. m., and disappearing about 3 p. m. On some days it seemed to be less severe than on others.

Further Treatment.—Various combinations of drugs, including sodium bicarbonate, calomel, bromids, chloral, coal-tar preparations, etc., were faithfully tried, but with little or no result. Cold applications to the head sometimes seemed to give slight relief, but at best it was only temporary.

Finally at 8:30 a. m. on January 29, 1.3 gm. quinin sulphate was administered in capsules. The headache appeared as usual, between 9 and 10 a. m., but as time went on, contrary to custom, the aching seemed to be much less severe than usual.

Blood Examination.—Noting this change, at about 11:30 a. m. I proceeded to make a blood examination, which I should have done before, and certainly would have done had it not been for the apparently absolutely contradictory evidence. On taking a slide of the patient's blood and examining it under the microscope I found it to be fairly swarming with malarial spores, which resembled in appearance those of the tertian parasite. The examination, however, had been too long delayed, as prolonged and careful search failed to reveal any mature or segmenting parasites, hence it is impossible to say with certainty which variety of malarial parasite was responsible for the trouble.

Results.—On the whole, the headache on this day (January 29) was much less severe than usual. Two small doses of quinin were given during the day, and on the following morning at 8:30 another large dose of 1.3 gm. was administered.

On the morning of January 30 a very slight headache appeared about 10 o'clock. The blood was again carefully examined at this time, but nothing was found save a few scattered spores. The headache on this day was slight, and had practically disappeared by noon. The quinin was continued up to and including another large dose on the morning of January 31, after which, inasmuch as the patient experienced no pain on that date, it was stopped. From that time until the present the patient has experienced no recurrence of the headache.

It is extremely to be regretted that a thorough blood examination was not made much earlier in this case, but, as stated above, the bare possibility of malarial infection seemed so vague and remote that the examination of a blood specimen seemed an absolutely useless procedure. However, if the above report fulfills no other mission, it may at least serve to warn us against neglecting to follow up every possible diagnostic clue, however useless and insignificant it may seem.

HEMIPLEGIA OCCURRING DURING THE THIRD WEEK OF TYPHOID FEVER.*

THEODORE DILLER, M.D.
PITTSBURG.

In the *Medical Record*, Dec. 19, 1903, I reported a case of sudden hemiplegia with aphasia occurring during the fourth week of an attack of typhoid fever in a boy aged five years, and I also referred to several other reported cases. Inasmuch as this complication of typhoid fever seems to be a rare one, I have though it worth while to briefly record the clinical notes of a second case which has since come under my observation.

Patient.—A married man, aged 38, a bricklayer, habits good, previous history not significant.

History.—The patient was in the fourth week of a simple uncomplicated attack of typhoid fever, when on Aug. 9, 1904, he developed the hemiplegia to be described. His physician saw him at 5 p. m. on the date mentioned, and noted nothing unusual. He saw the patient again at 9 p. m. the same day, when he found that he was suffering from a complete left hemiplegia. It must have developed gradually and without loss of consciousness, as a member of the family was in constant attendance on the patient and noticed nothing unusual until an attempt to move the patient between 8 and 9 o'clock revealed the hemiplegia described.

Examination.—An examination which I made the next day revealed a complete left hemiplegia, with exaggerated tendon reflexes on the affected side and some mental confusion and thickness of speech. The heart and arteries seemed normal.

Course of the Disease.—The hemiplegia persisted for four months (the patient in the meanwhile had recovered from the typhoid fever) and then began to improve, and has continued to do so slowly up to the present time. He can now move the affected arm and leg pretty freely, but a considerable degree of paralysis persists, together with spasticity.

I am inclined to regard this hemiplegia as of thrombotic origin.

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* Reported at a meeting of the Pittsburg Academy of Medicine, 1905.

We Are Surfeited with Surgeons.—The present "rage" in medicine is surgery, surgery. The fledgling, barely able to diagnosticate a case of chronic constipation, wants to be a "surgeon." The hospital interne, after a year or so in hospital service, wants to be an abdominal surgeon. The young medical man, after graduating, seeks a position in the surgical clinic, and after dressing chronic ulcers for a year or two, modestly classifies himself in the medical city directory as a "surgeon." Enough of this inane desire.—*Med. Fortnightly.*

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SPOTTED FEVER.

For twenty years there has existed in the Bitter Root Valley in Montana a peculiar febrile disease known as spotted fever. It is not confined to the Bitter Root Valley, for cases have been observed in the valley of the Snake river in Idaho, in the valley of the Quinn river in Nevada, and in certain parts of Wyoming. Probably on account of its purely local character, the disease has received but little attention until the last few years, and it was not until 1902 that the work of Wilson and Chowning brought it into prominence. The claims of these authors that the disease is due to a peculiar animal parasite similar to that of Texas fever in cattle, and like it transmitted by insects, focused the attention of the profession on the condition.

In its clinical aspects, this condition suggests in some ways typhus fever, and in others epidemic cerebrospinal meningitis. It differs from the former disease in its lack of contagiousness, and from the latter in the comparatively slight involvement of the central nervous system. It is essentially a seasonal disease occurring almost exclusively in the spring and early summer. After an incubation period of from three to ten days the symptoms appear. At first they are very similar to those of any febrile disorder, chilly sensations or a chill followed by headache, bone and muscle pains, and nausea. As the disease progresses, nosebleed and slight bronchitis may occur, suggesting typhoid fever. The fever gradually rises, with evening exacerbations, and reaches its maximum from the eighth to the twelfth day. At this time the evening temperature may reach 105 or even 107 F.; after this, it falls by lysis, or in fatal cases remains high to the end. The eruption, which is very characteristic and gives the disease its name, appears in most cases about the third day. It is noticed first on the wrists, arms, and legs, later on the forehead, back, and chest, and last on the abdomen. At first, it takes the form of bright red macules from one to five millimeters in diameter, later these assume a purplish hue, and finally definite petechiæ are evident. Slight icterus is usually present, and desquamation may occur in the third week. With these symptoms, there is enlargement of the liver and spleen, scanty urine with albumin and casts, and, in some cases, a slight leucocytosis with increase in the large mononuclear elements. In fatal cases, the changes in the internal organs are those usually found in febrile conditions, cloudy swelling of the parenchymatous organs, submucous and interstitial hemorrhages, fatty liver, and swelling of the spleen. The intestines and lymphatic apparatus present no marked abnormality.

The main interest in the disease centers in its etiology. It would seem likely *a priori* that so sharply localized a disease would have a special causal agent. Such, indeed, were the conclusions of Wilson and Chowning, who stated that the blood contained a piroplasma which they named *Piroplasma hominis*. They claimed, further, that this organism is transmitted by the bite of a tick, and that the gopher acts as an intermediate host. In support of this view, they cited the seasonal incidence of the disease, this, according to them, corresponding to the seasonal incidence of the tick, the history of tick bites in all cases, and the presence of the causal agent in the blood of the gopher. Some months ago, Craig threw doubt on the blood findings, claiming that the appearances described as parasites are merely artefacts, and Stiles also was unable to confirm their observations. Recently Ashburn[1] has published the results of his observations, made with Stiles, on the cases which occurred in 1904. The results seem to indicate quite definitely that the etiology of this strange disease is as obscure as ever. Careful observation of the blood of eleven cases failed to disclose the organism described by Wilson and Chowning, nor was any other organism, bacterial or protozoan, discovered. The work of 1904 has also disclosed several other interesting facts regarding the disease. It has shown that not all those infected have been bitten with ticks, that in the Bitter Root Valley only the mesa on the west bank is infected, and that the nervous system can be quite markedly infected so far as the clinical symptoms are concerned. Pathologically, however, gross nervous lesions are not apparent, and it is still evident that the condition is not a form of epidemic meningitis.

Further investigation is of great importance, not only from a scientific but also from an economic point of view. The tick theory of the disease seems to have reduced the inhabitants almost to a state of panic, and it is to be hoped that the disease will be reinvestigated this season if only to reassure them and to render the development of this fertile valley practicable.

THE TREATMENT OF THE EPILEPTIC STATUS.

At best, epilepsy must be considered as merely a symptom-complex of which, as a rule, the underlying causes elude detection. The disorder must be looked on as the expression of a convulsive neurosis in which an abnormally irritable nervous system responds with undue readiness to varied stimuli. In accordance with this view, the therapeutic indications are, on the one

1. The Lancet-Clinic, vol. liv, No. 17.

hand, to diminish the irritability of the nervous system and, on the other hand, to remove and to avoid all possible exciting factors. The results of treatment will depend on the success with which these indications can be met, but no case should be despaired of and no effort be spared to attain the desired end. Drugs will at times subserve a most useful purpose in this connection, but the greatest good will be accomplished by a regulation of the diet and a simplification of the mode of life. Each case must be considered by itself and will receive treatment in accordance with its individual requirements.

One of the most serious phases of epilepsy with which the physician is called on to deal is the condition known as the epileptic status and consisting in a succession of convulsive attacks of which one begins before the preceding one has terminated. Some of the measures to be adopted with the object of preventing such outbreaks and of mitigating their severity when they occur are discussed by Dr. Konrad Alt,[1] on the basis of a considerable experience in an institution for the care of epileptics. As gastrointestinal disorders, especially constipation, often act as determining causes of the convulsive seizures, the closest attention should be given to the quantity and the quality of the food and the state of the digestive organs and their activities. As alcohol increases the irritability of the nervous system, it should be scrupulously avoided by the subjects of epilepsy. The same statement is applicable in modified degree to the use of morphin, emotional disturbances of varied kind, including sexual excesses, and exposure to the sun's rays.

Perhaps next in importance to gastrointestinal disorders as a factor in exciting the epileptic status is abrupt withdrawal of the bromids. The prophylaxis under such conditions is obvious and the treatment consists in the administration of large doses of the bromids by mouth or by rectum. The employment of iodids in the treatment of epilepsy, alone or in combination with the bromids, and whether a history of syphilis be present or not, is occasionally attended with an increase in motor irritability and the development of the epileptic status. Under such circumstances the iodids should be replaced by bromids, gradually or suddenly as the exigencies of the case may demand. Organic disease of the nervous system may act as the cause of the status and it should receive appropriate treatment. Attacks of epilepsy appear at times to be inhibited during and subsequent to the course of an acute febrile disease, later to reappear suddenly in the form of status. On the other hand, long-continued improvement with respect to the seizures has repeatedly been observed after attacks of erysipelas.

Death may occur during the convulsive stage of the status as a result of asphyxia from spasm of the respiratory muscles or from the entrance of particles of food into the larynx or bronchi. Aspiration pneumonia also may develop from the latter cause. Cerebral hemorrhage may occur from rupture of an artery in the brain and hypostatic pneumonia may be a secondary result. Hemorrhages may take place likewise into other organs, namely, kidneys, heart and liver, and lead to a fatal termination. Accordingly, the seizure should be brought to an end as speedily as possible. The patient should be shielded from light and noise and a high enema be given. Should these measures not suffice, resort may be had, with caution, to sedatives, such as bromid, chloral, amylene, dormiol, and opium, administered, preferably, by the rectum and fortified by tincture of strophanthus, or one may use chloroform by inhalation, guarded perhaps by the conjoint administration of oxygen. When the temperature is high, a prolonged cold bath or a cold douche may be given. When symptoms of general intoxication are present, venesection may be done, with or without saline infusion. Hypodermoclysis or enteroclysis may be employed independently of blood-letting, and nutrient enemata may be given to avert wasting. It seems probable that the treatment outlined in the foregoing will prove applicable also to the eclamptic status of pregnant women, and of children.

1. Münchener med. Wochschft., March 28, 1905, p. 585.

THE EFFECTS OF TROPICAL LIGHT ON WHITE MEN.

The closer one gets to nature, and the more intimately one studies her processes, the more one becomes convinced that there is law and order, not to say volition and intelligence, in all her varied phenomena. Observation has shown that individuals thrive best and attain their highest perfection when most nearly adapted to their environment. In the process of evolution gradual changes take place in response to the tendency to readjustment that is constantly present. It is in conformity with this doctrine that the dark races preponderate in the tropics and the less pigmented peoples in the temperate and arctic zones. It has been thought that this distribution is related to the intensity of the heat in different parts of the world, but sufficient evidence has been accumulated to show that other factors also are at work in this connection. One of the most important of these, there is now good reason for believing, is light, representing merely another mode of motion in the corpuscles of which all matter is constituted.

Ether waves of a certain length and frequency give rise to heat, while below and above these are, on the one hand, the so-called Hertzian and infra-red rays, and, on the other hand, the actinic rays, the *x*-rays, and the radium rays. The effects of the longer, heat rays, are pretty well understood, but those of the shorter, light rays, have only recently been given the consideration to which their importance would seem to entitle them. The subject is quite fully discussed in a monograph by Major Charles E. Woodruff,[1] Surgeon United States Army, who puts forward evidence in support of

1. The Effects of Tropical Light on White Men. New York: Rebman and Company, 1905.

the theory propounded by von Schmaedel to the effect that pigmentation of the skin in man has been evolved for the purpose of excluding the dangerous actinic or short rays of light, which have been found to be so destructive to living protoplasm. Dr. Woodruff shows that plants and animals are essentially identical, the protoplasm of each reacting in accordance with the conditions by which it is surrounded, the one representing merely a more advanced stage in the process of evolution. Both are provided with mechanisms, largely in the form of pigment, for affording protection against the deleterious effects of light, particularly the actinic or short rays. It is admitted that a certain modicum of light is necessary for the continuance of life, exercising a beneficial stimulation on all of the bodily functions, while an excess is exhausting and injurious. The latter-mentioned effects can be observed both in the tropics and in arctic regions.

Woodruff believes that the first men were brunette, though not black, their evolution taking place in a cold and light climate. Blondness appeared later, in cold and dark countries. The transition takes place gradually when the migration from one environment to another is sufficiently slow to permit of adaptation and readjustment to the new conditions, while rapid and radical change in surroundings is more likely to result in extinction. Hybrids do not thrive and are generally sterile, the principal reason perhaps residing in the fact that they are ill-adapted to any environment. Every race flourishes best in the climate for which it is most nearly adjusted.

Applying the foregoing considerations to the occupancy of the Philippines by the United States, Dr. Woodruff declares that acclimatization is, strictly speaking, not possible. Certain precautions, therefore, must be taken by white men compelled to live for longer or shorter periods in tropical climates. He recommends that the clothing worn during the day should be opaque to the shorter light waves. This end is best attained by wearing black or yellow underclothing. At the same time, the outer garment should be of a color that reflects heat in as large a degree as possible, namely, white, gray or yellow, if the wearer is to be exposed to the direct rays of the sun; black or dark blue is more serviceable for those not thus exposed. The hat should have a wide brim and should be thick enough to exclude all the sun's rays. It has been suggested additionally that the helmet be lined with tinfoil. The hair should be permitted to grow to a considerable length. Umbrellas should be carried by those who must go in the sun and are not on military duty. Houses should be provided with large verandas whose roofs come well down, in order that they may be kept dark. They should preferably be painted some shade of green, yellow or brown. Shade trees subserve not merely an ornamental purpose, but they are actually urgently necessary in the tropics. Whenever possible, the use of tents should be dispensed with in the tropics, wooden shelters being preferable when houses are not available. The midday sun especially is to be avoided. Work should be stopped largely between the hours of 11:30 a. m. and 3:30 p. m. and rest and sleep at this time should be encouraged. Women should not be out of doors between the hours of 9 a. m. and 4 p. m. When possible, drills, schools, sports, maneuvers and examinations should be suspended during the summer. The diet should be liberal and should include fresh meat. Civil officials who have been rendered unfit for labor by service in the tropics should be retired or pensioned. White employes presenting signs of breakdown should be transferred to home stations at once.

From the foregoing it will be seen that in the tropics the white man is confronted with many problems whose solution will be aided by observations and reflections such as those recorded by Major Woodruff and for which he, as well as the service he represents, deserves the fullest measure of credit.

WHAT IS THE CYCLASTER SCARLATINALIS OF MALLORY?

In the autumn of 1903 Mallory described certain protozoon-like bodies which he found in the skin of four bodies that had died of scarlet fever. These structures varied in size from 2 to 6 microns or more in diameter and were found in the epithelial cells of the epidermis, between these cells, and also in the superficial lymph vessels. For the sake of convenience in description they were divided into two groups. The members of the first group consist of small, round, oval, elongated or lobulated bodies, while those of the second group are characterized by a radiate structure forming a rosette from 2 to 6 microns in diameter. The rosettes are spherical in shape and contain a central round body around which are grouped from 10 to 18 narrow segments. These structures are not uniformly distributed in the skin, but appear to be found in groups. The skin from a number of other scarlet-fever bodies was examined, but gave negative results. In all of these cases the skin had been taken a number of hours after death, but skin was also taken from four patients during life and examined for the bodies and gave negative results.

From the fact that these structures form a fairly definite series of bodies of a distinct morphology, which may be compared with the cycle of asexual development of the malarial organism, they were looked on as protozoa. If they are protozoa Mallory concluded that they have a causal relation to scarlet fever because they have not been encountered in normal skin nor in the skin of smallpox patients which has been carefully examined by Councilman and his co-workers. He proposed for them the name of cyclaster scarlatinalis because many of the rosettes are either wheel or star-shaped.

In the autumn of 1904 the work of Mallory was verified by Duval[1] by the discovery of protozoon-like bodies in the blister fluid in the skin (and in the skin) of scarlet-fever patients during the height of the rash. In all 18 cases were studied, but the bodies were found only in the last five. These bodies resemble closely those described by Mallory, except that a larger variety of shapes were seen, necessitating the formation of five groups. They vary in size and shape from small, oval bodies 1 to 2 microns in diameter to large rosettes 4 to 6 microns or more in diameter. Many intermediate stages could be made out, suggesting the developmental cycle of a protozoon. Ameboid forms also are not uncommon. Duval believes these bodies to be identical with those described by Mallory in the skin, and although they have not been grown on artificial media he believes them to be protozoa which have a causal relation to scarlet fever.

This question of scarlet-fever protozoa has also been studied by Field[2] of New York. Field was able to verify the work of Mallory and of Duval, but found the bodies in the skin and blister fluid of measles patients as well as in those of scarlet-fever patients. A number of pieces of skin were removed during life, at the height of the rash, but none of them contained any protozoa. This fact suggested to Field that these bodies may be the products of degenerating cells and their nuclei. He accordingly studied the degeneration products of leucocytes and other cells suspended in serum, and found there bodies which closely resembled those described by Duval in the blister fluids. All the different forms, such as rosettes and the individual segments, could be made out in these preparations. Field concludes, therefore, that a large per cent., at least, of the bodies found in the blister fluid from scarlet-fever and measles patients are not protozoa but simply degeneration products of leucocytes and other cells. This question is, however, far from being settled and any additional light that can be thrown on it will be gladly welcomed by those who are interested in the etiology of scarlet fever.

1. Univ. of Penn. Med. Bull., December, 1904. Virchow's Archiv, 1905, vol. clxxix, p. 485.
2. Read before the American Association of Pathologists and Bacteriologists, Chicago, April 21, 1905.

PERICOLITIS SINISTRA.

The term pericolitis sinistra has been employed to describe a condition that is considered comparable with appendicitis, except that it occurs on the left instead of on the right side. Strictly speaking, the disorder more nearly resembles perityphlitis, as it is the peritoneum that is more especially involved. In its simplest form, the morbid process exists as a localized peritonitis surrounding the descending colon or sigmoid flexure. Suppuration may take place, with the formation of an abscess which may rupture into the peritoneal cavity, with the development of general peritonitis. The distinctive symptoms are constipation of some duration, with pain in the left iliac fossa, usually elevation of temperature and at times vomiting. Palpation discloses deep tenderness, muscular resistance and a more or less cylindrical tumor in the left iliac fossa. Leucocytosis and indicanuria have been observed in some cases. The treatment consists in the administration of enemata and castor oil, and the early application of an ice bag and later of hot poultices. In the presence of an abscess, the abdomen should be opened, the pus evacuated and drainage provided for. Cases illustrative of the several phases of the affection are reported by Dr. H. D. Rolleston.[1]

1. Lancet, April 1, 1905, p. 854.

TOO FEW PHYSICIANS? HARDLY!

A dean of a medical college is reported to have prophesied recently that under the present more rigid requirements, both in medical education and in state licensure, there will soon be a shortage of physicians in this country. In support of this view he points out a falling off in the first year enrollments in certain medical colleges and claims that it indicates a coming deficiency and that the supply will not offset the depletion of practitioners caused by death and disability. We are uninformed whether his remarks were intended as a jeremiad or as offering matter for congratulation to his hearers. We see no reason to regret a decrease in the annual output of physicians providing the lessened quantity is in inverse ratio to the quality of the product, as we believe is the tendency at the present time. There would have to be a very rapid falling off in the output of medical graduates to make it seriously felt by the profession for a score of years to come, and there is little reason to fear any undesirable falling off in the supply of undergraduates in the really high-class institutions of the country. If the effect would be to reduce the number of medical colleges by one-half it would not be a matter for serious regret. This country has been suffering from what might properly be called a surfeit of medical education, and the medical profession in general has not been the least sufferer from this cause. The prophecy is one of better things and it is to be hoped it will be realized. But, judging from the reports covering college statistics for 1904-5 thus far received, it looks as though instead of a decrease of the number of graduates there will be an increase.

CENSORSHIP WANTED.

Two or three years ago we noticed the allegation of an eclectic doctor in Connecticut that he was employing therapeutically certain recently discovered elements found in infinitesimal quantities in the atmosphere and elsewhere. As a rather queer statement this could only be interpreted as an attempted imposition on the presumed ignorance of his hearers. Now comes another smart fellow from the same quarter and of the same school of practice, who gives out the remarkable utterance that smallpox is not contagious. At least, this is the newspaper statement of his remarks as reported for the committee on contagion and infection to the Con-

necticut Eclectic Medical Association. Of course, he opposed vaccination and probably will be quoted by the antivaccinationists as another of the eminent physicians who uphold their cause. The Connecticut Eclectic Association certainly ought to sit down hard on some of its members.

THE VIBRATING SENSATION.

It has been observed that under normal conditions the vibration of a tuning fork applied to various subcutaneous bony prominences and surfaces is appreciable at the point of application and throughout the extent of the bone. The sensation is said to be always present in health and usually absent when other forms of sensation are lost as a result of disease of the nervous system. It may be absent, also, in cases of tabes dorsalis when tactile and thermal sensibility are preserved. In this connection, Dr. R. T. Williamson[1] reports the results of a series of observations on persons in health and suffering from divers disorders. He studied 50 healthy persons, 80 suffering from various diseases of the nervous system, 45 suffering from diabetes mellitus, and 75 suffering from other diseases (heart, lungs, abdominal viscera, blood). He was able to confirm the constant presence of the vibrating sensation under normal conditions. In some cases of tabes it was absent in the legs before impairment of other forms of sensibility appeared and before ataxia or Romberg's symptom could be detected. In three cases of spinal paraplegia it was lost in the legs when other forms of sensibility were not affected. In a considerable proportion of cases of diabetes mellitus and of chronic glycosuria it was enfeebled or lost when sensation in other respects was normal. The conclusion is accordingly reached that sensibility can not be declared normal until the vibrating sensation has been tested. In making the observations a tuning fork six inches long was employed, and it was applied to the styloid process of the ulna, the internal malleolus, the inner surface and the anterior edge of the tibia at about its middle, the anterior superior spine of the ilium and the middle of the sternum.

DANGER OF SMALLPOX HOSPITALS.

We recently[2] directed attention to reports from two European cities with reference to the influence of smallpox hospitals in spreading the disease among persons living in their neighborhood. Since these reports were made there has been published the report of the chief of the Bureau of Health of Philadelphia, which shows that, notwithstanding every effort to prevent it, the Municipal Hospital of that city proved a most important focus for the dissemination of the disease. Between June 1 and Dec. 26, 1903, the smallpox morbidity per 10,000 of population in the municipal ward in which the hospital is located was 42.5, while in three immediately contiguous wards it was 18.4, 25.4 and 14.6, respectively. There was a marked decrease in the rate in more remote districts. These facts emphasize the need of isolation hospitals in fact as well as in name. Isolation of the patient is not sufficient—the place of isolation itself must be isolated. Smallpox hospitals ought to be erected in outlying districts sufficiently removed from populated districts to eliminate them as a factor in the spread of the disease.

1. Lancet, April 1, 1905, p. 855.
2. THE JOURNAL, April 22, p. 1287, and May 6, p. 1453.

INTRAPELVIC EXTRAVASATION OF URINE.

Extravasation of urine is usually due to injury of the urethra in its bulbous or membranous portion, and the fluid, by reason of the anatomic relations, finds its way into the perineal space, the scrotum, the penis and the connective tissue of the anterior abdominal wall. Rarely, the lesion occurs further back in the urethra, so that the urine is prevented from passing forward, but is forced to escape into the connective tissue of the pelvis. The latter condition is difficult of recognition and may readily be overlooked in the absence of operation. An illustrative case has recently been reported by Dr. David Lowson.[1] A man received an injury to the perineum by being thrown from a horse, which fell on him. He complained of much pain in the back in the left side of the pelvis and groin. There was little shock and no symptom of internal injury. After a restless night a small amount of blood and urine was removed by means of a catheter introduced as far as possible. Later in the day, only a small amount of blood was obtained in the same way. The patient thought he had previously passed urine freely while in a bath. There was no swelling of the perineum or scrotum, or other indication of urinary extravasation in the usual situation. Above the pubes, however, there was a large, tense, semi-elastic, globular tumor, dull on percussion, tender to touch and extending upward toward the umbilicus. Pressure was followed by an immediate desire to urinate. Attempts to introduce an instrument into the bladder failed, the tip always deviating to the right on reaching the deep urethra and entering a space in which it had considerable freedom of movement on rotation. Operation having been decided on, an incision was made in the median line above the symphysis and a stream of dark blood and urine spurted forth. The source of the fluid was found to be an artificial channel hollowed out of the connective tissue and communicating with a reservoir deep in the pelvis. Further exploration disclosed a large cavity to the right of the neck of the bladder, from which a pint and a half of fluid was sponged out. The bladder was uninjured. The ischial or pubic ramus was denuded of all covering but no line of fracture could be discovered. As bleeding continued, the cavity was packed with aseptic sponges. A small opening was made in the bladder and, with the finger inside, a catheter was gradually passed through the urethra into the bladder and tied in position. A piece of India-rubber tubing just fitting the vesical opening conveyed the urine to a receptacle by the side of the patient. The wound was then partially closed and dressed. The catheter was removed from the bladder and the tube from the vesical wound on the ninth day. A small abscess formed in the abdominal wall close to the incision and had to be evacuated on the eleventh day. The patient was convalescent nine weeks after the accident and free from all urethral trouble.

1. Lancet, March 25, 1905, p. 790.

THE DISREPUTE OF EXPERT MEDICAL TESTIMONY.

This subject is not new, but its vexing perplexities press for solution with increasing insistence. So long as the medical profession includes members who are willing to testify in court to manifest absurdities, or untruths, just so long will expert medical testimony deserve the sneer it so often receives from the public, the press and the legal profession. In a recent trial a man was convicted of murdering his wife by giving her arsenic. There was no direct proof of the crime, but the accused carried a bottle of powdered arsenic in his pocket, the wife who had previously been healthy died rather suddenly of an ailment with symptoms resembling those of arsenical poisoning, her stomach and other organs were found postmortem to contain quantities of arsenic, and it was proved that there was no arsenic in the embalming fluid used. A member in good standing of a representative medical society is reported by the newspapers to have sworn that eight grains of arsenic might be found in the stomach after the body had been buried for a week or so, averring that arsenic which had found its way into the soil from embalming fluids used in other bodies that had been buried might penetrate the interred body during this brief space of time. No proof was offered that the soil of the graveyard contained even traces of arsenic. It is such evidence as is here referred to that has made so-called medical expert testimony an opprobrium to medicine and too often worthless to the courts of justice. Is it not time for our medical societies to take up this matter in earnest?

ABOLISH THE HOSPITAL GRAFTER.

In the May 13 issue of *Charities*—the journal of the Charity Organization Society of New York City—appears a letter from Dr. John Joseph Nutt of that city concerning a topic vital to the interests of the medical profession—the abuse of hospitals and dispensaries. Dr. Nutt writes that physicians give liberally of service and money to charity, and that few of them think it wise to state frankly their opinions on this subject for fear of loss of favor with hospital boards. He very aptly draws a sharp distinction between the public and the semi-public hospital. The former is strictly eleemosynary and is rigidly avoided by the "hospital grafter" (if we may be pardoned for coining the term), while the latter is largely patronized by those able to pay something for medicines, nursing, and medical attention at home. These thrifty ones enter the hospital by means of a letter from a member of the "board" or from some minister or capitalist. The present deficiency in hospital finances would disappear, Dr. Nutt says, if the undeserving were excluded, and there is reason to believe that he is not far astray. The responsibility for the present ill status he lays largely on the physicians themselves, and few will dispute him. In these matters we seem ever ready to sell our brother's inheritance—the right of our professional colleagues to earn a living—for a mess of pottage—to wit, a hospital appointment, or ample clinical material. Experience shows that, as a rule, it is useless to expect physicians holding hospital appointments to make serious effort to combat this evil. Nearly always the members of the staff treat whomever is admitted, without asking embarrassing questions that might lead to an interview with the fearsome "board." So Dr. Nutt proposes a commission to examine minutely into the financial standing of every hospital patient, and as a chief remedy urges the total separation of medical charities from paid medical service. The suggestion is excellent but it can be executed only through one agency, that is, by the active intervention of the organized profession. When the medical societies take hold of this problem in earnest it will be solved. Recently we recorded the fact that a first step is being made in this direction by the Academy of Medicine of Cleveland. When the profession is ready, the societies will appoint committees that will mitigate the evil, and let us hope that we soon shall be ready. There must be an effective organization to investigate the circumstances of every person who offers himself or herself as a "charity" patient. Then let us apply the remedy, absolute segregation of charity patients from pay patients. Those who really have no means will perforce go to the genuine charity hospitals, while few of those who have any income will sink their pride so far as to enter an institution patronized by none but the destitute. When the only alternative is a "pay" hospital where none are treated free, the deed is done. So long as rich and poor are treated under one roof, the well-to-do will not scruple at getting free treatment if they can, as no stigma attaches to residence in an institution where many pay their way. It may be found that this remedy will apply only in the large cities, but other and just as effective measures of reform can be used in smaller places.

DR. MURPHY'S ILLUSTRATIONS: In some copies of this issue, Figs. 17 and 19, on pages 1673 and 1674, were printed upside down before error was discovered.

Medical News

ILLINOIS.

Smallpox at Arcola.—An outbreak of smallpox is reported at Arcola, and an inspector of the State Board of Health has been sent there with instructions to see that adequate precautions against the spread of the disease are observed.

Children's Hospital Ready.—The new Cook County Hospital for Children, erected at a cost of $80,000, was formally opened for inspection May 23. The president of the Board of County Commissioners and the warden of the hospital made short addresses.

Personal.—Dr. W. C. Blankmeyer has been appointed bacteriologist of the State Board of Health.——Dr. August R. Reder, Aurora, has been appointed surgeon for the Burlington System.——Dr. Herman A. Brennecke has succeeded the late Dr. Courtney L. Smith as surgeon for the Chicago and Northwestern Railway at Aurora.——Dr. Henry Hatch, Quincy, who has been seriously ill, is reported to be improving.

Carroll County Frowns on Advertising.—The Carroll County Medical Society, at its meeting in Savanna May 16, passed a resolution that the members of the society refrain from newspaper advertising or notice and that each offense shall be considered a breach of good faith to the society and shall be deemed unprofessional conduct, subject to the penalties laid down in the by-laws and regulations of the society.

Injudicious Economy.—The governor has vetoed the Glackin bill appropriating $25,000 for the establishment of a sanitarium for tuberculosis. He has also reduced the appropriations for state institutions as follows: Illinois Northern

Hospital for the Insane, Elgin, $49,550; Illinois Eastern Hospital for the Insane, Kankakee, $45,000; Illinois Central Hospital for the Insane, Jacksonville, $10,000; Illinois Southern Hospital for the Insane, Anna, $49,000; Illinois Western Hospital for the Insane, Watertown, $30,000, and Illinois Hospital for the Incurable Insane, Bartonville, $293,000.

Chicago.

Only One Death From Typhoid.—One solitary death from typhoid fever in a population of nearly two millions is the notable feature of Chicago's health during the week ended May 20.

Reception to Dr. Stevenson.—A large reception was given by Mrs. Theodore P. Shonts, May 11, at the Virginia Hotel, in honor of Dr. Sarah Hackett Stevenson and in celebration of her return to social life after a serious illness.

The Week's Deaths.—The total deaths from all causes for the week ended May 20 were 539, 89 more than for the previous week and 56 more than for the corresponding week of 1904. Pneumonia again led, with 70 deaths, followed by consumption, with 58; heart disease, with 53; nephritis, with 46, and violence, with 45.

Personal.—Dr. Walter A. Jaquith has resigned the chair of physical diagnosis at the Postgraduate Medical School, as he has received an appointment to the home office medical staff of the Prudential Insurance Company. The Prudential Medical Examiners' Association gave a dinner in Dr. Jaquith's honor May 23.——Dr. C. G. Dwight has been elected professor of otology, rhinology and laryngology in the Chicago Eye, Ear, Nose and Throat College.

Decrease of Mortality.—Study of the decreasing mortality in Chicago during the last ten years, compared with the immediately preceding decade, corroborates the assertion made by the Department of Health that the greatest decreases are among diseases over which sanitary administration and preventive medicine have greatest and most direct control. The decrease is in no wise connected with the climate of Chicago, to which it is so often attributed by those compelled to take cognizance of the fact, nor to any occult or mysterious agency.

INDIANA.

Gifts to Hospitals.—As a result of the second annual "tag day" in South Bend, May 6, $1,987.45 was collected, which will be divided between the St. Joseph and the Epworth hospitals.——Mrs. J. M. Gaar and Mrs. Jennie Leeds have given $1,000 to equip the operating room in the Reid Memorial Hospital, Richmond.——It is announced that $4,750 of the $7,000 required to purchase the Columbus City Hospital has been subscribed.

MARYLAND.

Personal.—Dr. Maximus Whitehill, Unionville, Frederick County, has been appointed by the governor president of the State Board of Immigration.

Typhoid in Institute.—Typhoid fever has broken out at the Jacob Tome Institute, Port Deposit, and many of the students have gone to their homes. There are eight cases.

Hospital for Colored People.—The colored people of Frederick have organized a hospital association and will purchase a building to be converted into a hospital for their race.

Smallpox.—A case of smallpox, which developed in a woman attending the Seventh-Day Adventist Convention, now meeting near Washington, was traced to Montgomery County, and the health officer of the state has ordered an investigation.

Election.—The ninth annual meeting of the Baltimore County Medical Association was held at Towson, May 18. The following officers were elected: President, Dr. George H. Hocking, Govans; vice-president, Dr. Harry S. Jarrett, Towson; recording secretary, Dr. Harry A. Naylor, Baltimore; corresponding secretary, Dr. R. C. Massenburg, Towson, and treasurer, Dr. Benjamin Whiteley, Catonsville.

Merger of Hospitals.—Through the good offices of the governor, a movement is on foot for the merging of the two hospitals at Frederick (the Frederick City and the Emergency Hospital) into one, to be called the "Union Hospital." A petition signed by a number of physicians has been submitted to the Frederick City Hospital and to the Frederick County Medical Society, which controls the other institution, asking each to appoint a member, who with a third, to be selected by the two, shall constitute a board of managers to arrange for consolidation. It is proposed that the board thus appointed shall have charge of the finances and general management and appoint the medical staff.

Baltimore.

Vital Statistics.—There were only 168 deaths last week, an unusually low number, equivalent to an annual death rate per 1,000 of only 15.50, being for whites 13.45, and for colored 26.60. The decrease in pneumonia cases was especially striking.

Personal.—Dr. William H. Welch sails for Europe, May 27, to be gone until September.——Dr. Thomas Opie, who has been dean of the College of Physicians and Surgeons ever since its foundation in 1872, has resigned that office as also the professorship of gynecology, and has been made professor emeritus. Dr. Charles F. Bevan has been made dean.——Dr. Howard A. Kelly sailed, May 23, for England.

The Passing of Osler.—Among the events characterizing Dr. Osler's last days here were a tea given him by the alumni of the Johns Hopkins Training School, at which nearly 175 nurses, some from other cities, were present. A dinner also was given to him and Dr. Barker at the Maryland Club by the advisory board of the medical faculty, consisting of the heads of all the departments of the medical school. The house which Osler occupied is being dismantled, and will be pulled down to make way for an apartment house. The colonial doors, mantels, etc., are advertised for public sale; also the summer house.

Commencement.—At the commencement of the College of Physicians and Surgeons, held May 18, there were 69 graduates. The prize men (gold medalists) were M. J. Nestor, Rhode Island; Ross Anderson, Utah; Fayette E. Read, Massachusetts, and William C. Stiffler, Maryland. The address to the graduates was by Rev. William Howard Falkner. The alumni association met May 17 and elected the following officers: President, Dr. Spencer M. Free, Pennsylvania; vice-presidents, Drs. M. J. Nestor, Rhode Island, and F. A. Ries, Maryland; secretary, Dr. H. C. Knapp, Maryland; treasurer, Dr. C. E. Brock, Maryland, and assistant secretary, Dr. J. W. Chambers, Maryland.

Hospital Staff Appointments.—The following have been appointed on the resident staff of St. Joseph's Hospital for the ensuing year: Dr. J. M. Lynch, senior resident surgeon; Drs. Bernard J. Wess and Sydenham Rush Clarke, resident physicians; Drs. Elmer H. Adkins and Frederick W. Davis, resident surgeons; Dr. H. C. Irwin, resident gynecologist; Dr. Eugene Hayward, pathologist; Dr. H. E. Ashbury, in charge of *x*-ray work. The dispensary staff consists of Drs. John S. Fischer, Eugene L. Crutchfield, physicians, and Drs. Joseph E. Gately, Frank E. Brown, M. J. Cromwell, surgeons.——The following appointments of assistant residents have been made at the University of Maryland Hospital: Physicians, Drs. R. C. Metzel, R. P. Bay and J. H. Smith, Jr.; surgeons, Drs. J. W. Pierson and J. G. Matthews; gynecologist, Dr. H. E. Jenkins.——At the Maternity Hospital Drs. R. L. Mitchell and W. B. Warthen were appointed residents.——At Bayview Hospital, Drs. S. L. Bare, W. Henry Smithson, Jr., W. J. Riddick and W. W. Brabham were appointed assistant residents.——The following appointments have been made at the City Hospital: Drs. A. W. Deal, J. C. Fisk, J. J. Boucher, M. J. Nestor, J. H. Harbman, F. P. Bledsoe, G. C. Berkheimer, A. W. Brinham and Robert Wriston.——At the Maternity Hospital Dr. W. A. Dorsey.

MASSACHUSETTS.

Personal.—Dr. Edward M. Frissell, Webster, has been made town physician of Dudley.——Dr. Edward b. Lane, displaced by politics from his position of superintendent of the Boston Insane Hospital, has taken up his residence in Wellesley Hills.

Loses Suit Against Physician.—In the suit of Lucinda Gerrish, administratrix of the estate of the late William R. Gerrish, against Dr. Robert Provan, Boston, in which $10,000 damages was claimed on account of alleged negligence, the court found for the defendant.

Union Medicale of Fall River.—The French-speaking physicians of Fall River, where there is a large French-Canadian population, have organized a local medical society with the above name. Dr. Joseph B. Chagnon was elected president and Dr. Joseph E. Lanoie, secretary.

State Society Meeting.—The one hundred and twenty-fourth annual meeting of the Massachusetts Medical Society is to be held in Boston June 13 and 14. The section meetings of June 13 will be held in the medical library. The Shattuck lecture in the evening of this day will be by Russell H. Chittenden of Yale, in "Some Problems of Intermediary Metabolism," and will be followed as usual by the president's recep-

tion. Instead of the usual papers of the second morning there has been arranged a series of demonstrations of clinical and laboratory methods. In booths in the Mechanics' Building prominent specialists will explain to visiting physicians the methods they employ. The ear, skin diseases, physical diagnosis in medicine and in surgery, pathologic anatomy, x-ray, nose and throat, urine, bacteriology, blood, legal medicine, sputum, feces, gastric and bladder diagnosis, genito-urinary and neurology, will each have the latest possible practical demonstration. The annual discourse, which comes at noon, will be by Dr. Charles A. Drew, State Farm, Bridgewater, and will be followed by the annual dinner.

NEW HAMPSHIRE.

Gift to Hospital.—Mr. and Mrs. Edward Tuck have given $10,000 to the building fund of the Exeter Cottage Hospital.

Dartmouth Commencement.—At the one hundred and eighth annual commencement exercises of Dartmouth Medical School, Hanover, a class of 12 was graduated.——A new medical building, to cost $30,000, is to be erected this summer, adjoining the present college building.

Dartmouth Alumni.—The alumni of Dartmouth Medical College have elected the following officers: President, Dr. Ezra Mitchell, Lancaster, N. H.; vice-presidents, Dr. W. A. Negrattis and Dr. Roy V. Baketel, Manchester, and secretary and treasurer, Dr. Howard N. Kingsford, Hanover.

Military Medical Officers.—The officers of the New Hampshire Association of Military Surgeons for the coming year are: President, Dr. Ezra Mitchell, Lancaster; vice-presidents, Drs. George Cook, Concord, and Orlando B. Douglass, Concord; treasurer, Dr. Granville P. Conn, Concord, and secretary, Dr. Ferdinand A. Stillings, Concord.

State Society Meeting.—The one hundred and fourteenth annual meeting of the New Hampshire Medical Society was held May 18 and 19 at Concord. A program of fourteen papers on various topics was provided. The following officers were elected: President, Dr. Ferdinand A. Stillings, Concord; vice-president, Dr. Ira J. Prouty, Keene; secretary, Dr. Granville P. Conn, Concord; assistant secretary, Dr. Loren A. Sanders, Concord; treasurer, Dr. David M. Currier, Newport; anniversary chairman, Dr. Forrest L. Keay, Rochester, and necrologist, Dr. Eli E. Graves, Penacook.

NEW YORK.

County Society Gets Fee.—Judge Childs has ordered the treasurer of Erie County to turn over to the Erie County Medical Society the $250 fine collected from Mrs. Louisa Busch, Buffalo.

Unlicensed Practitioners Fined.—On complaint of the Franklin County Medical Society, "Dr." D. G. Becker, a Malone dispenser of "cure-all," was arrested, charged with practicing medicine without a license, pleaded guilty, was fined $30, paid the fine, and agreed to discontinue the practice.——Mrs. Louisa Busch, Buffalo, who was recently convicted of practicing medicine without a license, was sentenced to pay a fine of $250 or to be committed to the penitentiary one day for every dollar of the fine left unpaid.

Bills Signed by the Governor.—The most important bill signed by the governor during the past week was one which repealed the law of 1902, which centralized the control of the state hospitals for the insane in the State Commission of Lunacy at Albany and substituted boards of visitation for local boards of managers for each hospital. Among other bills signed were that of Assemblyman Fish authorizing the transfer of inmates of state charitable institutions by the State Board of Charities, one providing that a district attorney must prosecute a person illegally practicing as a physician, one making it a misdemeanor for consumptives at a sanatorium not to obey local health regulations, and also one providing that poison shall not be sold unless properly labeled and the sale recorded.

New York City.

Fresh Air Charity.—The board of directors of the Fresh Air Charity have announced that the institution at Rockaway Park will be open to the poor sick children of the city about June 8. Steps have been taken toward the erection of needed buildings.

Scarlet Fever Hospital.—Although 3,000 invitations were sent out to the formal opening of the Kingston Avenue Hospital, Brooklyn, which took place May 13 and 14, fear of infection was probably the cause of the failure to appear of 2,950 of the invited guests. Patients were admitted May 15.

Contagious Disease.—There were reported to the Sanitary Bureau for the week ended May 13, 742 cases of measles, with 14 deaths; 474 cases of tuberculosis, with 195 deaths; 312 cases of diphtheria, with 36 deaths; 235 cases of scarlet fever, with 13 deaths; 136 cases of cerebrospinal meningitis, with 88 deaths; 37 cases of typhoid fever, with 3 deaths, and 129 cases of varicella.

To Test Pasteurizing Plant.—Under the auspices of the Health Department, there will be a test of the new pasteurizing apparatus brought from Germany at the Nathan Strauss Milk Laboratory. Dr. Park will introduce germs of tuberculosis, diphtheria and scarlet fever into the milk. It will then be placed in the pasteurizer and analysis will be made immediately after it passes through the process.

Notice from the Milk Commission.—The Milk Commission of the Medical Society of the County of New York has sent out a notice to the effect that, while it has supervision only of that portion of a dealer's milk which carries certification, it does not intend to allow a dealer known to have adulterated milk to sell certified milk. Eight dealers on the East Side have been fined sums varying from $15 to $50 for selling adulterated milk during the past week.

Praise for Quarantine.—The consulting board of the health officer of the port of New York, consisting of Drs. Joseph D. Bryant, Edward G. Janeway, Herman M. Biggs, George L. Peabody, Francis P. Kinnicutt, John H. Girdner, James W. McLane, Richard H. Derby, William M. Polk, John W. Brannan, and T. Mitchell Prudden, visited Quarantine May 13 and made a careful inspection of the station, hospital and laboratory. The board passed a formal resolution of approval of the high standard of efficiency maintained by Dr. Doty. Dr. Doty's administration is especially noteworthy, according to these resolutions, in the recognition of the fact that it is in the infected man and his immediate surroundings that danger lies, and not in the ship with its cargo and healthy passengers; in the systematic use of the clinical thermometer for the detection of early and obscure phases of infection; in the application of scientific sanitary measures adapted to each special form of infectious disease; in the efforts to ameliorate the hardships of detention; and in the unwearied efforts, through laboratory research, to add to the knowledge of useful practical sanitation.

PENNSYLVANIA.

Physician Exonerated.—Dr. George H. Marshall, Pittsburg, was exonerated, May 15, of the charge of improperly treating Mary Clifford, a young woman who died at the East End Hospital, April 2, under suspicious circumstances.

Gift to Hospitals.—A philanthropist, who desires that his name be not mentioned, has given $10,000 to the Oil City Hospital for a nurses' home. Grandview Sanitarium for Consumptives received $1,000 from the same individual.

Philadelphia.

Bequest.—By the will of Henry F. Louchheim, the Jewish Hospital, the Jewish Maternity Hospital, the Jewish Foster Home, and the United Hebrew Charities each receives $1,000.

Alumni Meeting.—The annual meeting of the Alumni Association of Jefferson Medical College will be held in the amphitheater of the Jefferson Medical College Hospital June 1. The meeting will be presided over by Dr. Jonathan C. Biddle, Fountain Springs, president, and officers will be elected for the coming year. The annual dinner will be held in the evening.

Women Graduate.—The fifty-third annual commencement of the Woman's Medical College of Pennsylvania was held May 17, when 42 women received degrees. The degrees were conferred by the president of the Board of Corporators, Mrs. Mary E. Mumford. The oration to the class was delivered by Mr. Franklin Spencer Edmonds. Eleven states were represented, and there was one student each from Canada, Chili, China, and Turkey.

Health Report.—The deaths reported for the week ended May 20 reached 456, an increase of one over the number reported last week and a decrease of 21 from the number reported for the corresponding period of last year. There was a marked decrease in the total number of contagious diseases and deaths therefrom as compared with last week, there being 103 new cases of typhoid fever and 16 deaths due to the malady this week, against 155 cases and 23 deaths last week. The principal causes of death were as follows: Typhoid fever, 16; pulmonary tuberculosis, 71; cancer, 23; apoplexy, 15; heart disease, 34; acute respiratory diseases, 50; enteritis, 26; Bright's disease, 34. The total number of

contagious disease cases aggregated 193, with 19 deaths, as compared with 240 cases, with 36 deaths, for the previous week.

Sickness Among Infants in 1904.—During the summer of 1904 the assistant medical inspectors of the city made a series of house-to-house visits, primarily for vaccinations. In all 27,000 homes were visited. In the course of this work they made a systematic inquiry into the health, sanitary environment and alimentation of all infant inmates up to 2 years, tabulating the facts elicited in each case. A synopsis of these reports in the case of 3,374 babies is given in the following table:

DIET.	Well.	Diseases Caused Probably by Indiscreet Diet.	Account Specific Disease.	Diathetic.	Unclassified.	Total Sick.	Percentages.
Raw milk	500	39	3	1	2	45	8
Mother's milk	1592	58	2	2	7	69	4
Sterilized milk	87	25	.....	.....	.....	25	23
Pasteurized milk	14	5	.....	.....	.....	5	26
Patented foods	47	18	.....	.....	.....	18	27
Table diet	659	53	6	1	7	67	9
Condensed milk	211	27	1	.....	7	35	14
Totals	3110	225	12	4	23	264	8.5

Vaccinated prior to visit of inspector	578
Vaccinated by the inspector time of visit	285
Those having had variola	2
Not vaccinated at all	2509

From the high percentage of sickness shown among children fed on sterilized and pasteurized milk, it would be easy, if certain important facts were overlooked, to draw an erroneous conclusion. The authorities of the Health Board, however, think that there can be no doubt that modified milk properly pasteurized is the best diet for artificially fed infants. Infants were not ill because they were so fed, but were fed in this manner because of illness. In many cases the diet had been prescribed on account of illness due to previous improper feeding. In most cases the approved diet had been prescribed only a short time before the visit of the inspector. The comparative immunity which nursing infants seemingly enjoyed from acute specific diseases is shown by this table compiled by the health bureau. The authorities state that these maladies usually reach their minimum during the summer months, and a just basis of comparison is hardly afforded by a table compiled at this time. Yet the small number of cases of such diseases among the large number of infants included in this table is striking.

UTAH.

Personal.—Dr. and Mrs. Frederick D. Bickford, Salt Lake City, leave about June 2 for Europe.

Smallpox in Salt Lake.—On May 16, 8 cases of smallpox, 5 of which were in one family, were reported to the Salt Lake City Board of Health.

Hospital News.—Cache Valley Latter Day Saints' Hospital, Logan, was formally dedicated and opened May 4. The hospital will accommodate 50 patients.——St. Mark's Hospital Society has been organized in Salt Lake City.

State Board Organization.—The State Board of Medical Examiners met April 7 in Salt Lake City and organized, electing the following officers: President, Dr. Elias S. Wright, Salt Lake City; secretary, Dr. Robert W. Fisher, Salt Lake City, and treasurer, Dr. Amasa S. Condon, Ogden.

VIRGINIA.

Fined for Selling Cocain.—W. H. Mathews, Norfolk, was fined $100 and costs on April 15 for selling cocain to a colored woman.

Smallpox Hospital Burns.—The smallpox hospital of Elizabeth County was destroyed by fire April 22. There was one inmate, a negro, who has not been seen since, but "the authorities do not think he perished in the flames."

Must Report Contagious Disease.—An ordinance requiring physicians to report cases of contagious diseases and typhoid fever was adopted by the Richmond City Council May 12. The ordinance provides for a fine for each case. The object of the ordinance is to provide better arrangements for keeping the health statistics of the city.

New Virginia Physicians.—The sixty-seventh annual commencement of the Medical College of Virginia, Richmond, was held May 16, when a class of 38 was graduated, two of whom will not receive their diplomas until they attain their majority. Major Walter D. McCaw, surgeon U. S. Army, delivered the address of the evening.——University College of Medicine, Richmond, held its twelfth annual commencement exercises May 18, when a class of 77 was graduated. Dr. C Alphonso Smith, of the University of North Carolina, delivered the address of the occasion.

Personal.—The class in medical jurisprudence at the Medical College of Virginia presented its professor, Dr. William H. Taylor, with a silver loving cup.——Dr. Charles C. Tucker, Blackstone, superintendent of the Roanoke Hospital, has resigned, and Dr. Thornton, of Charlottesville, succeeds him.——Dr. John F. Winn, Richmond, has been elected to the chair of clinical obstetrics in the University College of Medicine.——Dr. William D. Love, Winchester, was seriously injured in a runaway accident May 17.——The residence of Dr. John C. Anderson, Mineola, was burned April 21. Loss, $5,000, with no insurance.

GENERAL.

Yellow Fever Subsiding in Panama.—A recent cablegram from the canal zone states that no more deaths have occurred among the employes who were stricken with yellow fever May 3. The majority have recovered.

CANADA.

Subscription for Hospital in Labrador.—In addition to other sums secured by Dr. W. T. Grenfell for his medical missionary work, one gift of $5,000 has been made to aid in establishing a hospital on the southern coast of Labrador.

Appropriation for Toronto General Hospital.—The Ontario government will immediately place at the disposal of the University of Toronto $465,000, to be expended on necessary buildings, including a general hospital. Toward this latter Toronto will probably give $200,000. A site is already proposed near the university for the new hospital, which will afford the best facilities for clinical instruction.

Toronto Hospitals Too Crowded.—Dr. R. W. Bruce Smith, inspector of prisons and public charities in Ontario, in his annual report, refers to the need of greater hospital accommodation in Toronto. His official tour of inspection of the Toronto hospitals revealed the fact that unhygienic conditions prevailed in all in some quarters, particularly in the wards set apart for municipal patients. Last year the total expenditure for hospitals in Ontario amounted to $852,240.51, the provincial grant being $110,000.

Amalgamation of McGill and Bishop's Medical Faculty.—The medical faculties of Bishop and McGill's universities will unite June 30, 1905. According to the agreement, the students now at Bishop's will be received by the medical faculty of McGill University at eundem statem. The members of the medical faculty of Bishop's holding only degrees from that body are to receive the degree of M.D., C.M., from McGill, and all the members of Bishop's medical faculty are to be appointed on the staff of McGill.

Personal.—Dr. Allan McLaughlin, London, Ont., has been appointed head surgeon of the Marine-Hospital at Naples, in the service of the United States.——Dr. P. H. Bryce, chief medical officer of the Department of the Interior, Canada, has been on a tour of inspection of the Northwest territories, Manitoba and British Columbia. At the port of Vancouver he has appointed Dr. J. A. L. McAlpine local inspector of immigration, and hereafter all trains entering that city from the United States will be inspected in the same way as boats.

Quarterly Report of Montreal General Hospital.—The receipts for the first three months of this year amounted to $38,470, an increase of $3,781 over last year. The expenditure amounted to $25,644, an increase of $1,719 over the corresponding quarter of last year. The medical report showed that 731 patients had been treated during the quarter and that there had been 61 leaths, 14 occurring within three days of admission. In the out-door departments there had been 11,129 consultations, compared with 9,204 for the first quarter in 1904.

FOREIGN.

New Hygiene Institute in Berlin.—The Berlin University has recently dedicated a "Hygienische Institut" as part of

its teaching equipment. A bust of Pettenkofer was unveiled at the opening ceremonies.

Therapeutic Gardening.—Dr. G. Heimann of Berlin has made arrangements with certain gardeners in the city and suburbs to give employment, at certain hours, to persons suffering from nervous affections. He anticipates fine results from this systematic therapeutic gardening.

Russian Sanitariums for Mental Affections in Physicians and Nurses.—The *Russische med. Rundschau* states that the Russian government is planning the construction, at Irkutzk, Tomsk and elsewhere, of sanitariums for psychic affections in physicians and nurses from the seat of war.

Imprisonment for Medical Fraud in Germany.—The court at Landshut recently sentenced an irregular to four weeks' imprisonment for cheating. The suit was brought on account of his having treated a woman with gout by having her wear a "gout prayer," printed on a card which was pasted on her body. She was to wear the card until it dropped off. His fee for this treatment was $1.00.

Opening for Physicians in Russia.—The Russian authorities have decreed that duly accredited medical men and women will be allowed to practice in Russia, serving at the front or in the campaign against epidemic diseases. Since the war began, women physicians in Russia have been placed on exactly the same footing as the men in all respects. The graduates of the Woman's Medical College in St. Petersburg are now eligible to any official medical position open to their male confrères.

Suppression of Medical News in Russia.—The *St. Petersburg. med. Wochft,* states that the official report of the last national medical congress in Russia has been suppressed by the government. It also mentions that the authorities have forbidden the meeting of a certain public health society at which Dr. P. P. Rosanoff was to present the communication he had read at the recent anticholera medical congress at Moscow. The appeal to the government against the bureaucracy at this congress was editorially mentioned in THE JOURNAL April 15, 1905, page 1202.

The Waldfrieden Sanitarium for Male Inebriates.—This is the first public sanitarium for alcoholics in Germany and is said to be a model institution. It is located in the country not far from Berlin in large grounds and has 150 beds. Besides the home proper, where voluntary applicants are treated, there are several lock cottages which receive inmates with curable psychoses from abuse of alcohol, sent to the sanitarium from the insane asylums. The institution is in charge of a resident psychiatrist. The inmates, both voluntary and the confined, pay 75 cents a day.

Campaign Against Cholera in Russia.—The Institute of Experimental Medicine at St. Petersburg is conducting two cholera courses, of a month each, to train physicians for the struggle with cholera which it is feared is impending. It is said that from 150 to 200 physicians and medical students are attending these courses. After a week of lectures about 30 young men and women experienced in laboratory work are inoculated with plague and cholera vaccine. They then go to the laboratory connected with the institute, which is on an island off Cronstadt. Here they complete their practical studies in serum and vaccine treatment of these diseases. The director of this laboratory last year succumbed to laboratory plague infection, we remember.

Reception of the Visiting British Physicians in Paris.—A party of English physicians accepted the invitation of their French confrères and visited Paris May 10-11. A large number of pamphlets were printed and distributed among the guests, presenting in artistic manner information in regard to the medical institutions of Paris, their historical features, etc. After the visits to the hospitals and clinics, the receptions, banquet and theatrical entertainment, a special train will convey the party to Vichy, Evian and Lake Geneva, and a second special train has been arranged for the southwestern resorts, including Biarritz and Pau. The hospitals of Paris are in something of a transitional stage just now, as the authorities are reconstructing them, having appropriated $9,000,000 for the purpose, as previously mentioned in these columns.

Epidemic Cerebrospinal Meningitis in Germany.—The latest reports state that from March 27 to April 16 there were 585 cases in the Oppeln district of Upper Silesia, with 326 deaths. The circular, with instructions for recognizing and taking care of the disease, issued by the German government, is reproduced in the *Münch. med. Wochft.* for May 9. The instructions are practically the same as those issued in this country. Several scattered cases have been reported in Berlin. Ghon has been studying the epidemic in Austrian Silesia, and states that he found only two instances in which there were 2 or 3 cases in one family. In all the other cases the epidemic did not spread from house to house or along a street, but the cases developed scattered here and there. In the 912 cases in Galicia, 819 were children, and the mortality was 40 per cent. There have been 7 cases in Vienna to date, and some in southern Austria.

Sanitary Agreement Between France and Italy.—The French government has invited the Italian government to establish a sanitary agreement, based on the International Sanitary Convention of Paris, Dec. 3, 1903, stipulating that both countries shall recognize and admit the efficacy of sanitary measures taken in each other's country, on board of ships coming from ports infected with plague and cholera. This measure will insure for a ship coming, for example, from India and having been subjected to the necessary sanitary measures in an Italian port, free pratique in a French port without further restriction, and vice versa. The proposed agreement would constitute a notable advantage to the commerce and navigation of both countries, and the invitation has been willingly accepted by the Italian government. The director general of public health in Italy (at present in Paris) has been authorized by the Italian government to negotiate with the French authorities in regard to this matter.—*Public Health Reports.*

Recent Decisions of the Prussian Medical Court of Honor.—Among the decisions handed down since last May is one imposing a fine of $15 and costs for the omission to duly notify the physician who had previously been treating the patient. The defendant's plea was that he had not definitely taken over the patient but merely treated him in a special instance. The court decided that the obligation of professional brotherliness imposed the necessity for notification under all circumstances. The same physician was acquitted on a second count of the same kind, as he was able to establish that the statements of the patient's family had justified him in the belief that the patient was no longer receiving medical attendance from the first physician. In another instance a physician was fined for advertising his sanitarium in an organ unworthy of professional recognition. Another decision was to the effect that the individual pecuniary needs of a physician can not be regarded as any excuse for opening an office in a place where he does not reside and which is already sufficiently supplied with physicians' offices. Another physician was fined $250 and costs and deprived of the privilege of voting in the medical chamber for five years. His offence had been unethical advertising and criticism of the methods of his colleagues.

Fifth International Congress of Psychology.—This congress opened at Rome April 26. Professor Bianchi, minister of public instruction, presided, and addresses were made by Janet, official delegate from France, author of "Causes Célèbres," Henschen from Sweden, Motora from Japan, Ingenieros from Argentine, Vaschide from Roumania, Gheorgor from Bulgaria, Hermanides from Holland, and others. Ottolenghi of Rome presented a communication on "Measurement of Pain," with an apparatus for the purpose, in which the pain is measured by the response to the faradic current. Roncoroni of Cagliari stated that he had examined 400 individuals supposed to be mentally sound, and had found that only 25 per cent. of the women and 5 per cent. of the men were absolutely free from some psychic anomaly. Flechsig's address on the mechanism and localization of psychic activity aroused a lively discussion, Henschen and Mangazzoni disputing his views. Sciamanna reported some interesting and instructive experiments on monkeys. Lipps' address on the impossibility of explaining the facts of consciousness by physiologic data attracted great attention, as he is known to be one of the best students of the physiology of the brain, being in charge of an institute for experimental psychology. The *Gazzetta degli Ospedali* for May 4-9 has a report of the proceedings.

Sequel to Jacob's "Pulmonal Infusion."—THE JOURNAL mentioned, on page 557 of the last volume, the sensation caused in Berlin by Jacob's treatment of tuberculosis of the lungs by infusion of tuberculin directly into a lower bronchus, with or without tracheotomy. He was said to have suppressed facts in his reports, and to have directly hastened the death of two of the patients thus treated. Suit was instituted against him, and he lost his position as physician to the Charité Hospital. The irregulars took the matter up, and appealed to the authorities to punish him for homicide. The court recently formally acquitted him, stating that there was nothing to prove that he had hastened the death of one of the patients, while this was directly disproved in the other instance. His name, con-

sequently, appears again on the list of privat docents. The "nature healers" recently announced a public discussion of the Jacob case, inviting him to be present. He did not accept the invitation, but sent a letter in which he denied all criminal experimentation, and stated that now that his reputation had been cleared by the testimony of experts he intended soon to enter the lists in a scientific field, and refute his detractors. The "nature healers'" assembly passed resolutions asking the authorities to publish in full the testimony of the experts, and the other details in the case, and protesting against his retention as privat docent in the university.

Conference of the International Association of the Medical Press.—This association is thus far almost entirely European, and the officers make an urgent appeal to American editors for their co-operation. The official conference of delegates was held at Berne in April. France was represented by Doléris of Paris and Blondel, who is the general secretary of the association and has charge of the scientific information bureau in the Sorbonne building at Paris. England was repsented by Mr. Smith, editor of the *Lancet*; Italy by Bossi of Genoa; Spain by Larra of Madrid; Portugal by Bombarda of Lisbon, secretary general of the approaching International Medical Congress; Belgium by Pèchère of Brussels, and Switzerland by Jaquet of Basle, editor of the *Corr.-bl. f. Schweiz. Aerzte.* The president of the International Association of the Medical Press, Cortezo of Madrid, was unable to be present owing to his recent appointment as minister of public instruction. His place was filled by Posner of Berlin, editor of the *Berl. klin. Wochft.* It was decided to publish an annual report of the transactions of the association with periodical bulletins. Identification cards are also to be supplied to members, which may prove useful in traveling in foreign countries. The next regular meeting of the association will be an informal gathering before the opening of the approaching International Medical Congress at Lisbon. The principal subject to be discussed and arranged then will be the participation of the medical press in international congresses. The presence of the general secretary of that congress was regarded as a happy omen of a change for the better in this respect. An international code of ethics for the medical press is being prepared. The habit of sending an article for simultaneous publication in several journals is one of the practices condemned. Other subjects that were discussed were the right of property in literary works, articles for advertising purposes, and the free medical journals, which are numerous in France and which offer serious competition to the legitimate medical periodicals.

Association News

Chicago Medical Society Train to Portland.

The Chicago Medical Society has completed arrangements for a special train which will leave Chicago July 6 at 7:30 p. m. and will arrive at Portland at 8 a. m. Monday, July 10. This train goes by the Chicago, Milwaukee and St. Paul and the Northern Pacific railroads, and passes the mountain ranges in the west, such as the Rocky Mountains, Bitter Root Range, Mission Range and Cascade Range, in addition to traveling at least 1,000 miles along rivers and lakes between Chicago and Portland, and passing such cities as St. Paul, Minneapolis, Fargo, Helena or Butte, Spokane, Seattle and Tacoma. The beautiful Puget Sound country is passed en route, as well as the large wheat fields of the north, including the famous irrigation ditches and irrigation localities. This train will consist of Pullman cars, dining car, baggage car, and Pullman observation car. This will be a specially conducted party, and the train will run solid from Chicago to Portland, making sight-seeing stops en route, including a two-hour stop at St. Paul and a three-hour stop at Spokane. Reservations for sleeping accommodations may be made by applying to the secretary of the society, Dr. Frank X. Walls, 103 State street, Chicago.

Marriages

BENJAMIN BAKEWELL, M.D., Oakland, Cal., to Miss McElrath.

JULIUS BRODER, M.D., to Mme. Malvine Lobel, both of New York City, May 12.

FOSS SCHENCK, M.D., Cincinnati, to Miss Adelaide Cox, at Colona, Ind., May 3.

FRED M. ANDERSON, M.D., to Miss Nellie McColm, both of Gravity, Iowa, May 10.

ANDREW J. ROBINSON, M.D., to Miss Emily Parsons, both of Aspen, Colo., May 4.

HARRY K. STONER, M.D., Berlin, Pa., to JESSIE BOGGS, M.D., of Cleveland, Ohio, May 9.

CHARLES E. HEARTSILL, M.D., to Miss Vernie Hefner, both of Marshall, Texas, May 18.

GEORGE L. MCBRIDE, M.D., to Mrs. Lillian Storrs, both of Grand Rapids, Mich., May 9.

EDWIN M. MENDEL, M.D., to Miss Loretta Eleanor Jefferson, both of New York City, May 10.

ROY CRUSE, M.D., Iron Mountain, Mich., to Miss Anna Esterbrooks of Lead, S. D., May 12.

WILLIAM JUDSON ALLEN, M.D., Beloit, Wis., to JESSIE TEMPEST PETRIE, M.D., of Chicago, May 10.

ROBERT MCCHEYNE GLASS, M.D., to Miss Katharine Irvine Cover, both of Winchester, Va., May 10.

JOHN C. OUTHET, M.D., to Miss Gertrude Charlotte Paul, both of Chicago, at Rockford, Ill., May 5.

ARTHUR M. HARRISON, M.D., Bowling Green, Ohio, to Miss Herma J. Cuff of Napoleon, Ohio, May 10.

CHARLES C. FULTON, M.D., to Mrs. Alice Ferguson, both of Portsmouth, Ohio, at Covington, Ky., May 4.

JOHN FRANKLIN CRITCHLOW, M.D., Salt Lake City, to Miss Mary Edna Taylor, at Hailey, Idaho, May 17.

HARRY E. ROWAN, M.D., Punxsutawney, Pa., to Miss Mamie Brant Zepp of Baltimore, at Alexandria, Va., May 2.

WILLIAM ALBERT NASON, M.D., Roaring Springs, Pa., to Miss Sarah Jane Baughman of Blairsville, Pa., May 4.

Deaths

Alexander Allen Faris, M.D. University of Nashville Medical Department, 1868, for more than thirty years a member of the American Medical Association; a Confederate veteran, who lost his right arm in the service; the only physician who remained in Hickman, Ky., throughout the yellow fever scourge of 1878; one of the most prominent and beloved practitioners of Western Kentucky, died at his home in Hickman, May 12, from neurasthenia, after an illness of a year, aged 65.

James H. Hysell, M.D. University of Buffalo Medical Department, 1861, assistant surgeon of the Ninth Virginia Volunteer Infantry, and surgeon of the First West Virginia Veteran Infantry during the Civil War, and chief surgeon of the Second Division, First Army Corps, chief surgeon of Cienfuegos province and later medical disbursing officer at Santiago during the Spanish-American War, died at his home in Pomeroy, Ohio, from chronic malaria, May 10, aged 67.

John W. Bayne, M.D. University of Maryland School of Medicine, Baltimore, 1868, professor of clinical surgery in the University of Georgetown, president of the medical board of Providence Hospital, and major and brigade surgeon of volunteers in the Spanish-American War, died suddenly at his home in Washington, D. C., May 17, from disease of the throat, aged 59.

Alexander W. Rogers, M.D. College of Physicians and Surgeons in the City of New York, 1836, said to have been the oldest alumnus of that institution; for 67 years a practitioner of Paterson, N. J.; one of the founders of the Passaic District Medical Society; died at his home in Paterson, May 14, from acute kidney disease, after a short illness, aged 90.

William H. Thome, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1858, surgeon of the Twelfth Pennsylvania Volunteer Infantry during the Civil War, and thereafter a practitioner of Palmyra, Pa., died in the hospital at the National Soldiers' Home, Hampton, Va., from tuberculosis, after a long illness, April 19, aged 69.

Julius J. Boyle, M.D. University of Buffalo (N. Y.) Medical Department, 1869, a member of the American Medical Association, censor for his district of the Medical Society of the State of Pennsylvania, member of the Susquehanna County Medical Society, died at his home in Susquehanna, Pa., May 12, after a short illness, aged 58.

Edward Pelton Hayward, M.D. College of Physicians and

Surgeons in the City of New York, 1894, acting assistant surgeon, U. S. Army serving in Cuba, Philippine Islands and China; died, March 16, at the home of his mother in Nebraska City, Neb., after an illness of ten days, aged 32.

Hannah C. Rous, M.D. University of Michigan Department of Medicine and Surgery, Ann Arbor, 1886, a member of the American Medical Association, died at her home in Vevay, Ind., May 12, from cerebrospinal meningitis, after an illness of five weeks, aged 51.

Sarah G. Jones, M.D. Howard University Medical Department, Washington, D. C., 1893, said to have been the only colored woman holding a license issued by the Virginia State Board of Medical Examiners, died at her home in Richmond, Va., May 11.

Henry Joseph Halley, M.D. Jefferson Medical College, Philadelphia, 1856, a pioneer physician of Saline County, Mo., died at the home of his son in Kansas City, February 21, from paralysis, after an illness of three years, aged 71.

Pierre A. Marks, M.D. Miami Medical College, Cincinnati, 1867, assistant surgeon on the U. S. Gunboat *Fairplay* during the Civil War, died at his home in Chicago, May 12, from pneumonia, after an illness of three weeks, aged 61.

David H. Snowden, M.D. Jefferson Medical College, Philadelphia, 1858, died at his home in Sterling, Kan., March 25, aged about 60. He was to have been the president of the Guthrie (Okla.) University Medical Department.

John Franklin Johnston, M.D. Jefferson Medical College, Philadelphia, 1858, for many years a practitioner of Perrysville, Ohio, died at the home of his daughter in Columbus, Ohio, March 3, after a long illness, aged 70.

Louis B. Milliken, M.D. Medico-Chirurgical College of Philadelphia, 1900, formerly interne at the Altoona (Pa.) Hospital, died at the home of his brother in Silver City, N. M., after a long illness, May 6, aged 30.

Moses S. Hall, M.D., once president of the West Virginia Medical Association, and a graduate of a Louisville college, died near Parkersburg, W. Va., recently, from cancer, after an illness of two months, aged 81.

William H. White, M.D. University of Wooster, Medical Department, Cleveland, 1886, died at his home in Cleveland, May 13, from heart disease consequent on influenza, after an illness of several weeks, aged 66.

Bartlett J. Burke, M.D. University of Louisville Medical Department, 1849, died at his home in Lathrop, Mo., April 17, from uremia consequent on chronic prostatitis, after an illness of one month, aged 86.

B. J. Head, M.D. Medical College of the State of South Carolina, Charleston, 1846, for many years a practitioner of Barnesville, Ga., died at the home of his daughter in Lumber City, Ga., February 16.

Robert Emory Stobart, M.D. Starling Medical College, Columbus, Ohio, 1891, for several years health officer of Pomeroy, Ohio, died in that city, May 4, from tuberculosis, after a long illness, aged 38.

Hiram A. Cummings, M.D. Miami Medical College, Cincinnati, 1881, died at his home in Clear Spring, Ind., from valvular heart disease, April 20, after an illness of two years, aged 47.

John A. Hull, M.D. Jefferson Medical College, Philadelphia, 1859, in charge of the Confederate hospital at Hazlehurst, Miss., during the Civil War, died at La Monte, Mo., February 13.

Edward W. Altvater, M.D. St. Louis Medical College, 1859; assistant surgeon United States Army, 1863 to 1865, died from apoplexy at his home in Upper Falls, Md., May 15, aged 68.

Louis A. Jaegers, M.D., of New Albany, Ind., died at his father's home in Lafayette township, Floyd County, Ind., from disease of the stomach, after an illness of two years, aged 28.

Julian W. Deane, M.D. University of Georgetown Medical Department, Washington, D. C., 1868, died at his home in Deanwood, Washington, May 6.

Jacob W. Thompson, M.D. Starling Medical College, Columbus, Ohio, 1865, died from nephritis at his home in St. Paul, Minn, May 15, aged 69.

John C. Batchelder, M.D. Massachusetts, 1887, of Rockland, Mass., died in a hospital in Boston, May 11, after an operation for appendicitis, aged 71.

David G. Proctor, M.D. Jefferson Medical College, Philadelphia, 1875, died at his home in Thompson, Ohio, May 15, after a brief illness, aged 77.

Rufus Willard, M.D. New York University, New York City, 1861, a pioneer physician of Seattle, Wash., died recently and was buried, May 11.

Louis Frederick Hollands, M.D. Examination, Illinois, 1899, died at his home in Wheaton, Ill., February 21, from heart disease, aged 63.

William O. S. Piper, M.D. Baltimore Medical College, 1898, died at his home in Bellaire, Ohio, May 13, after a short illness, aged 34.

Joshua Bayley Gould, M.D. Vermont Medical College, Woodstock, 1850, of Somerville, Mass., died recently in Philadelphia, aged 85.

Joseph Bernard J. Hoeferlin, M.D. Chicago, 1898, died at his home in Chicago, May 12, from phthisis, after a short illness, aged 24.

Edson A. Jenkins, M.D. Ohio, died at Cottage Hill, Fla., April 19, from heart disease, after an illness of three days, aged 63.

Charles M. Neeld, M.D. Pennsylvania, 1886, died at his home in Scranton Pa., May 12, after an illness of four months, aged 49.

James M. Fickle, M.D. Cincinnati, 1878, died at his home in Stockwell, Ind., May 12, from uremia, after a short illness, aged 58.

Henry P. Merrill, M.D. Harvard University Medical School, Boston, 1867, died at his home in Portland, Me., May 11, aged 62.

J. A. Knighton, M.D. Flint Medical College of New Orleans University, 1900, died at his home in West Point, Miss., May 11.

Benjamin F. Josselyn, M.D. Chicago, 1878, formerly of San Francisco, died at his home in Ontario, Cal., February 23.

J. W. Harwood, M.D. Certificate, 1889, died at his home in Atwood, Tenn., January 14, aged 65.

Charles M. Koier, M.D. Illinois, 1883, died at his home in Chicago, May 15, from diabetes.

Book Notices

DISEASES OF THE SKIN, Their Description, Pathology, Diagnosis and Treatment, with Special Reference to the Skin Eruptions of Children and an Analysis of 15,000 Cases of Skin Disease. By H. Radcliffe-Crocker, M.D. (Lond.), F.R.C.P., Physician for Diseases of the Skin in University College Hospital. Third Edition, Revised and Enlarged. Special Illustrated Edition, with 76 Plates and 112 Illustrations. Vols. I and II. Cloth. Pp. 1466. Price, $8.00 net. Philadelphia: P. Blakiston's Son & Co. 1905.

This book is acknowledged as one of the best text-books on the subject in the English language. It is a safe, accurate, eminently practical and strictly modern treatise, well and clearly written by a man of large experience and of good judgment. Though thoroughly scientific it can be readily followed by the student as well as by the experienced dermatologist. The etiology, symptomatology, pathology and minute anatomy, constitutional conditions, diagnosis and treatment of each disease mentioned is fully covered. Dietetics and general management of cases receive due consideration. The newer remedies and bacteriologic researches in their bearing on dermatology are carefully set forth. Many valuable additions have been made to the text in this new edition, which brings the work up to date.

ELECTRICAL INSTRUMENTS FOR PHYSICIANS AND SURGEONS for Free Distribution. Chicago: R. V. Wagner Co. 1905.

While this is essentially a catalogue, it differs in character from the usual style of such publications. In addition to a complete and well-illustrated list of instruments and other electrical appliances, the book contains short articles descriptive of the manner of using the various appliances. These make interesting reading and give the book a value for the physician beyond that of the average catalogue.

GYNECOLOGY. Medical and Surgical. Outlines for Students and Practitioners. By Henry J. Garrigues, A.M., M.D., Gynecologist to St. Mark's Hospital in New York City. With 343 Illustrations. Cloth. Pp. 461. Price, $3.00 net. Philadelphia and London: J. B. Lippincott Co. 1905.

This book makes a good companion work to Garrigues' "Text-Book of Diseases of Women." The essential points in

gynecology are treated in a practical way, and minor operations which are liable to be undertaken by the general practitioner are described in detail. The illustrations are unusually good for a book of this kind.

ATLAS AND EPITOME OF OPERATIVE OPHTHALMOLOGY. By Dr. O. Haab of Zurich. Edited, with Additions, by George E. de Schweinitz, M.D., Professor of Ophthalmology in the University of Pennsylvania. With 30 Colored Lithographic Plates and 154 Text Cuts. Cloth. Pp. 377. Price, $3.50 net. Philadelphia, New York, London: W. B. Saunders & Co. 1905.

The colored plates in this work are worthy of note; they portray the various ophthalmic operations most satisfactorily. There are also over 100 illustrations in the text, which is chiefly explanatory of the plates. Like the other books of this series, it should prove valuable to the general practitioner as well as to the specialist.

Miscellany

St. Louisians at Portland.—The indications are that the St. Louis delegation to the Portland session of the American Medical Association in July will be a record breaker, according to the *Medical Fortnightly.*

Metapsychics.—This new term has been used by Prof. C. Richet of Paris, who has recently been elected president of the Society for Psychical Research. He uses the term as an analogue to "metaphysics," to characterize the subconscious and occult phenomena—phenomena beyond the realm of consciousness.

Properties of Damiana.—John Uri Lloyd, in the *Pharmaceutical Record,* reports the results of his studies of damiana. He found that it is lacking in aphrodisiac properties and that the poorer classes of Mexicans use it as an ordinary domestic beverage, as we use tea or coffee. The studies of damiana were made in its natural habitat, Lower California and Mexico.

Bright's Disease.—Widal and his pupils have shown that aggravation of kidney disease sometimes follows the ingestion of salt and that the increase of albumin goes parallel with the increase of edema. Sicard (*Bulletin de la Société Méd. des Hopitaux de Paris*) reports a case in which this parallelism did not occur and the increased discharge of albumin was followed by no notable augmentation of body weight or of edema.

Nature's Laws.—I have done my best to disabuse the public of the erroneous and harmful view that a man may with safety constantly violate the laws of health, and that he subsequently can go to the doctor and "be fixed up" so that he shall escape the consequences. He may, it is true, receive temporary relief from ill feeling; but he should be made to realize that persistent evil-doing will inevitably lead to ultimate pathologic results from which there is no relief except by death.—W. B. Ulrich, in his president's address before the Pennsylvania State Medical Society.

The Medical Man's Error.—I have a far greater respect for the ignoramus who, induced by the advertisements in almost every newspaper and magazine published, both secular and religious, purchases a bottle of Hartman's peruna, or Lydia Pinkham's vegetable compound, than I have for the doctor who is supposed to belong to a learned profession—a literary, scientific, logical and rational being—and who prescribes compounds of whose physiologic action, and even of whose composition he is as ignorant as of the pathologic condition he is guessing at.—Boothby, in *Wisconsin Medical Journal.*

Straining Professional Courtesy.—We learn that on May 15 an Italian physician of New York was arraigned on a charge of furnishing a death certificate in the case of a child he had never seen, who had died under the care of an unqualified quack. On the physician's counsel pleading in extenuation that such was the universal practice in the region . . . where the doctor lived, he escaped with a fine of $75 instead of a sentence to nine months' imprisonment, which the judge had first thought fit to impose on him. When we reflect on the chances to conceal crime developed by this amiable custom, it really seems as if the desire to help a needy comrade, qualified by the state or not, might lead to consequences in the highest degree detrimental to that *entente cordiale* that should always prevail between members of the medical profession and the police authorities.—*N. Y. Med. Journal.*

Postoperative Symptoms.—A Roumanian journal describes a number of apparently inexplicable symptoms developing after uneventful laparotomies. In one case a woman of 43, convalescing from a panhysterectomy, suddenly developed hemoptysis the fourth day and died in less than an hour. The lungs were sound. In another case hematuria, incontinence and diarrhea developed the third day after a similar operation. The hematuria subsided the seventh, the diarrhea not until the eleventh day. Other remarkable postoperative phenomena which the writer has observed are intestinal atony and occlusion, gastrointestinal hemorrhage, oliguria, atony and sudden death. His article is summarized in the *Münch. med. Wochft.* for April 4.

Campaign Against Malaria in Roumania.—Several hotbeds of malaria were selected for the campaign in Roumania, undertaken under the direction of Prof. V. Babes of Bucharest. He followed Koch's advice and administered 1 gr. of quinin daily for six to eight days to all those in whose blood the plasmodia were found. After the first week they took 1 gm. every ninth or tenth day for two months. Those who already displayed malarial symptoms took their dose of quinin five hours before the next attack was due. In prophylaxis of the well, every one took 1 gm. every ninth or tenth day for three months. In one community not a single case of malaria developed in 214 thus treated, while 15 cases occurred among 32 persons who did not take any quinin. In another community 1,800 persons were thus preventively treated and none contracted the disease, while there was a morbidity of 20 per cent. in the 800 not treated. In an article in the *Roumania Medicala,* summarized in the *Münch. med. Wochft.* of April 4, he explains the beneficial action of the quinin given in this way as due to the fact that the plasmodia in the blood are destroyed by it, and the mosquitoes biting the individual do not become infected. The prophylaxis was further aided by drainage or petrolization of standing waters.

Centralization of Governing Power Is Demanded.—Out of the multiplicity of associations should be evolved a single authoritative body with power to standardize and to equalize state examining boards and medical colleges, the latter in a way possibly slightly different than is now proposed. Let the colleges themselves be inspected and rated as are firms in the business world. As this method of reaching the colleges becomes more and more thorough, the less need will there be for state licensing boards, until finally their disbanding may be possible, a consummation devoutly to be desired. Smothering of exceptional teaching talent by limiting each professor to a rigid number of hours could be avoided by such a regulating board. If, for instance, an orthopedist can teach other parts of surgery, technically out of his branch, better than other surgeons of the institution, let him do this if the faculty so desire. Whether this central board should take the form of a department of the government in charge of a medical cabinet officer or should be a representative body chosen by the profession is a question for earnest deliberation. The American Medical Association could handle this matter, and in many respects is the proper body so to do. However that may be, we have at present no scheme to cast on the already troubled waters. The various organizations now attempting to solve the problem contain men of the highest acumen and probity and are fully competent to evolve a satisfactory solution. But they must get together.—*American Medicine.*

The Medical Profession—Shall It Be Organized?—There are still a few states that are holding out against the plan of reorganization of the American Medical Association. The objections advanced are those usually opposed to organization of any kind; for example, that the reorganization plan is one suggested by a few for the benefit of a few, and that the rank and file of the medical profession can hope for nothing better when the reorganization is complete than to be led about by the nose, with the rope in the hands of the men who

accomplished the establishment of the new order of things. To all who advance such arguments we would simply reply, Go to! All those who object to organization must necessarily do so as individuals and if they have any proposal to make looking to the welfare of the medical profession they must make such proposals also as individuals. In the meantime the American Medical Association is marching grandly by in regiments and companies, their leaders selected by every man who cares to cast his vote and their line of march determined by grand councils in which the best men from every company (if the local societies do their duty) have a voice and through whom every private in the ranks may bring his influence to bear on the questions that concern the organization as a whole. Those who maintain that these things can not be made to work out do so in the face of experience and knowledge. The fact that there have been corrupt municipal administrations has not yet been advanced by any but a deluded few as a reason for doing away with municipal organization altogether. It behooves every physician, every county officer and every state officer to realize what are the possibilities that lie before us with the perfect organization which has been planned. Already our JOURNAL of the American Medical Association and Dr. Charles A. L. Reed have become factors in national politics by a scathing arraignment of those persons responsible for the maladministration of the sanitary affairs of the Isthmian Canal Commission. This but serves as an example of what things may be done when the physicians of the entire country stand shoulder to shoulder for medical representation in the president's cabinet or, for example, for the election of our honorable ancestors to the Hall of Fame. Let the good work go on!—*Western Medical Review.*

Non-Contagiousness of Cancer.—A Paris medical society has been collecting the experiences of its 62 members in regard to the contagiousness of cancer. Out of the 62 replies to the question blank, 16 replied in the negative as knowing of no instance of possible contagion of cancer; 34 replied in the negative to all the questions except possible heredity. Only 1 knew of any cases of marital cancer. One wrote that he knew of a family of 4 sisters, not twins, who all had twin children. One succumbed to cancer of the stomach, one to a lung affection; the others are still living. Bleckmann stated that in an experience of 6,154 cancer subjects, observed between 1884 and 1905, only 4 instances were known in which cancer of the genitalia were observed on both husband and wife. Only 3 members knew of any cases of cancer occurring in persons who had tended cancer subjects; only 1 knew of any cases among neighbors or occupants of the same house. Only 2 knew of any cases of possible contagion between patient and physician. In respect to heredity, 46 knew of cases of possible direct heredity and 30 of collateral. Cases of other possible origin were known as follows: traumatism by 18; trophic disturbances, 5; malaria, 2; vegetables, 2; grief, 1, and animals, 1. The discussion in the society is published in the *Journal de Méd. de Paris* for April 9. One of the 3 members who related specific cases of contagion of cancer cited the experience of a surgeon who was removing a mammary cancer when the blood spurted and hit him in the nose. A fatal epithelioma developed later at this point. Another member knew of 2 cases of uterine cancer which might possibly have owed their inception to local treatment by a midwife who was tending a case of inoperable cancer at the time.

State Boards of Registration

COMING EXAMINATIONS.

The Nebraska State Board of Health, Lincoln, May 31 and June 1. Secretary, George H. Brash, M.D., Beatrice.

Minnesota State Board of Medical Examiners, Old State Capitol Building, St. Paul, Minn., June 6-8. Secretary, C. J. Ringnell, M.D., Minneapolis.

Board of Medical Examiners of Wyoming, State Capitol, Cheyenne, June 7. Secretary, S. B. Miller, M.D., Laramie.

Michigan State Board of Registration in Medicine, The Capitol, Lansing, June 13. Secretary, B. D. Harison, M.D., Sault Ste. Marie.

State Board of Medical Registration and Examination of Ohio, Cleveland, Columbus and Cincinnati, June 13-15. Secretary, Frank Winders, M.D., Columbus.

Board Representing the President and Fellows of the Medical Society of Delaware, Dover, June 20-22. Board Representing the Homeopathic Medical Society of Delaware, Wilmington, June 20-22. Secretary of the Medical Council of Delaware, P. W. Tomlinson, M.D., Wilmington.

State Board of Medical Examiners of New Jersey, Trenton, June 20-21. Secretary, E. L. B. Godfrey, M.D., Camden.

Medical Examining Board of Virginia, Richmond, June 20-24. Secretary, R. S. Martin, M.D., Stuart.

Board of Medical Examiners of Maryland, Baltimore, June 21-24. Secretary, J. McP. Scott, M.D., Hagerstown.

Medical Council of Pennsylvania, Philadelphia and Pittsburg, June 27. Secretary of the Medical Council, H. C. Shaeffer, M.D., Harrisburg.

Arizona April Report.—Dr. Ancil Martin, secretary of the Board of Medical Examiners of Arizona, reports the written examination held at Phoenix, April 3 and 4, 1905. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. The total number examined was 10, of whom 7 passed and 3 failed. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
University of Buffalo	(1901)	78
University of Michigan	(1902) 83; (1904)	75
University Med. Coll. of Kansas City	(1899)	87.2
Jefferson Med. Coll.	(1903)	83.7
University of Southern California	(1904)	90.1
University of Texas	(1898)	79
FAILED.		
University of Glasgow	(1885)	..
Columbus Med. Coll.	(1881)	65
Hahnemann Med. Coll., Chicago	(1901)	55.9

West Virginia April Report.—Dr. H. A. Barbee, secretary of the State Board of Health of West Virginia, reports the oral and written examination held at Parkersburg, April 11-13, 1905. The number of subjects examined in was 9; total number of questions asked, 120; percentage required to pass, 75. The total number of applicants examined was 63, of whom 41 passed and 22 failed. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
Eclectic Med. Inst., Cincinnati	(1898)	75
Illinois Med. Coll	(1905)	79, 79
Ohio Med. Univ	(1903)	83
College of P. & S., Baltimore	(1902) 88; (1904)	75
Louisville Med. Coll	(1905)	82
Howard University	(1904)	77
Medical College of Ohio	(1904)	91
Starling Med. Coll	(1898)	87
Miami Med. Coll	(1903)	88
University of Virginia (1897) 88; (1899) 91; (1900) 84; (1903) 91; (1904) 84.		
University Coll. of Med.	(1900)	82
University of Maryland	(1904)	81
University of Baltimore	(1904)	77
Baltimore Med. Coll	(1902)	80
University of Nashville	(1905)	86
University of Berlin	(1903)	79
Maryland Med. Coll	(1902) 77; (1903)	76
Columbian University	(1902)	85

Sixteen undergraduates also passed.

FAILED.

Representatives of the following colleges failed, no percentages were given:

Louisville Med. Coll. (1898), Kentucky School of Med. (1898-1904), Hospital College of Med. (1904), University of the South, 2 (1904), Baltimore Univ. School of Med. (1903). Fifteen undergraduates also failed.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, for the week ending May 20, 1905:

Moseley, E. B., deputy surgeon general, ordered to make medical and sanitary inspection of several posts in Department of Colorado.

Kean, J. R., surgeon, ordered to proceed to Panama to confer with Colonel Gorgas, asst.-surgeon general, pertaining to the purchase of medical supplies for the Department of Health of the Government of Isthmian Zone.

Adair, Geo. W., deputy surgeon general, promoted to colonel and asst.-surgeon general, to date from April 6, 1905.

Gray, Wm. W., deputy surgeon general, promoted to lieutenant colonel and deputy surgeon general, to date from April 6, 1905.

Woodson, R. S., surgeon, promoted to major and surgeon, to date from April 6, 1905.

DeLoffre, Samuel M., asst.-surgeon, relieved from duty at Fort Assiniboine, Mont., and ordered to Fort Schuyler, N. Y., for duty.

Bruns, E. H., asst.-surgeon, ordered to proceed from Brookville, Ind., and report to commanding general, Department of California, for duty at Sequoia or National Park, Cal.

Gibner, Herbert C., asst.-surgeon, ordered to proceed from Bridge-

port, Conn., and report to commanding general, Department of California, for duty at Sequoia or National Park, Cal.

Mason, Chas F., surgeon, and Rhoads, Thos. L., and Ekwurzel, Geo. M., asst.-surgeons, detailed members of a board of medical officers to meet at West Point, N. Y., June 1, 1905, for the physical examination of the cadets of the graduating class at the U. S. Military Academy, and such other cadets and such candidates for admission to the academy as may be ordered to appear before it.

Hall, John D., asst.-surgeon general, granted thirty days' leave.

Palmer, Fred W., asst.-surgeon, left U. S. Rifle Range, Arcadia, Mo., on ten days' leave of absence.

Cole, Clarence L., asst.-surgeon, appointed first lieutenant, asst.-surgeon, to rank from May 10, 1905.

Duncan, Wm. A., asst.-surgeon, recently appointed, ordered to Fort Leavenworth, Kan., for temporary duty.

White, J. Samuel, contract surgeon, returned to Fort Snelling, Minn., from detached service at Camp Lakeview, Minn.

Sparrenberger, Frederick H., contract surgeon, ordered from Fort Mott, N. J., to Sea Girt, N. J., for duty during the target practice.

Pinkston, Omar W., contract surgeon, ordered from Washington, D. C., to Fort Mansfield, R. I., for duty.

Probert, Merton A., contract surgeon, returned to duty at Fort Crook, Neb., from leave of absence.

Wolven, F. Homer, dental surgeon, ordered from Fort Adams, R. I., to a tour of duty at the posts in the Artillery District of Portland, beginning with Fort Williams, Maine.

Foster, Douglas E., dental surgeon, ordered from Fort Slocum, N. Y., to Fort Jay, N. Y., for duty.

Navy Changes.

Changes in the medical corps, U. S. Navy, for the week ending May 20, 1905:

Bertolette, D. N., medical director, commissioned medical director with rank of captain, from April 5, 1905.

Beyer, H. G., medical inspector, commissioned medical inspector with rank of commander, from April 5, 1905.

DeValin, C. M., surgeon, commissioned surgeon, with rank of lieutenant commander, from Jan. 31, 1905.

Guest, M. S., surgeon, commissioned surgeon, with rank of lieutenant commander, from March 3, 1903.

Warner, R. A., and Stalnaker, P. R., asst.-surgeons, commissioned asst.-surgeons, with rank of lieutenant (J. G.) from May 3, 1905.

Vickery, E. A., asst.-surgeon, detached from the *Southery* and ordered to the *Franklin*.

Hoen, W. S., asst.-surgeon, detached from the *Oregon* and ordered home.

Wilson, H. D., surgeon, commissioned surgeon, with rank of lieutenant commander, from March 31, 1903.

Dunn, H. A., P. A. surgeon, commissioned P. A. surgeon, with rank of lieutenant, from June 7, 1904.

Tolfree, H. M., P. A. surgeon, commissioned P. A. surgeon, with rank of lieutenant, from June 14, 1904.

Webb, U. R., P. A. surgeon, commissioned P. A. surgeon, with rank of lieutenant, from Oct. 11, 1904.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ending May 17, 1905:

Gassaway, J. M., surgeon, granted leave of absence for four days from May 23.

Light, S. D. W., acting asst.-surgeon, granted leave of absence for six days from May 2.

Malony, J., acting asst.-surgeon, granted leave of absence for thirty days from July 1.

Gibson, F. L., pharmacist, department letter granting Pharmacist Gibson leave of absence for twelve days from May 6, 1905, revoked.

BOARD CONVENED.

Board to meet at Baltimore, May 12, 1905, for the physical examination of cadets, Revenue-Cutter Service. Detail for the Board: Surgeon L. L. Williams, chairman; Asst.-Surgeon W. H. Frost, recorder.

APPOINTMENT.

Dr. Simon P. Brooks appointed acting asst.-surgeon for duty at Memphis, Tenn.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the week ended May 20, 1905:

SMALLPOX—UNITED STATES.

District of Columbia: Washington, May 6-13, 6 cases.
Florida: Jacksonville, May 6-13, 12 cases.
Illinois: May 6-13, Chicago, 33 cases, 1 death; Galesburg, 1 case.
Louisiana: New Orleans, April 29-May 13, 23 cases, 1 death. Two cases imported.
Massachusetts: Lowell, May 6-13, 2 cases; Quincy, April 29-May 6, 2 cases.
Michigan: Detroit, April 29-May 13, 5 cases, 1 death; Grand Rapids, May 6-13, 15 cases.
Missouri: St. Louis, May 6-13, 12 cases, 1 death.
New Hampshire: Nashua, April 29-May 13, 5 cases.
New York: New York, May 6-13, 6 cases, 1 death.
Ohio: Cincinnati, April 28-May 5, 8 cases.
Pennsylvania: Lebanon, May 6-13, 1 case; York, April 29-May 13, 29 cases.
Rhode Island: Providence, May 6-13, 1 case.
South Carolina: Charleston, April 29-May 6, 2 cases; Greenville, April 20-May 6, 4 cases.
Tennessee: Memphis, April 29-May 13, 12 cases; Nashville, May 6-13, 2 cases.
Wisconsin: Milwaukee, April 29-May 13, 10 cases.

SMALLPOX—INSULAR.

Philippine Islands: Manila, March 11-April 8, 3 cases.

SMALLPOX—FOREIGN.

Belgium: Ghent, March 25-April 1, 1 death.
China: Niuchwang, April 8, present; Shanghai, March 11-April 8, 3 cases among foreigners, 14 deaths, natives.
Ecuador: Guayaquil, April 18-25, 3 deaths.
Great Britain: Edinburgh, April 15-22, 1 case; Nottingham, April 22-29, 4 cases; Southampton, April 15-29, 1 case, 2 deaths.
India: Bombay, April 11-18, 95 deaths; Calcutta, April 8-15, 14 deaths; Karachi, April 9-16, 5 cases, 3 deaths; Madras, April 7-14, 5 deaths.
Italy: April 13-20, Ancona, 2 cases; Caltagirone, 4 cases; Catania Province, 23 cases; Cosenza Province, 3 cases; Lecce Province, 3 cases; Messina, 3 cases; April 15-22, Palermo, 6 cases, 1 death; Perugia Province, 3 cases.
Japan: Tokyo, April 8, 3 cases.
Turkey: Constantinople, April 16-23, 3 deaths.
West Indies: Grenada, April 6-14, 9 cases.

YELLOW FEVER.

Mexico: Tierra Blanca, State of Vera Cruz, April 23-May 6, 6 cases.
Panama: Colon, Jan. 23-April 6, 6 cases, 3 deaths; Panama, Jan. 1-April 29, 50 cases, 20 deaths.

CHOLERA.

India: Calcutta, April 8-15, 38 deaths.

PLAGUE—INSULAR.

Philippine Islands: Manila, March 11-April 8, 8 cases, 7 deaths.

PLAGUE—FOREIGN.

Africa: East London, April 1-8, 1 case, 1 death.
Australia: Brisbane, April 1, 1 case; New Castle, April 3, 2 cases.
China: Amoy, May 10, present.
Egypt: April 1-8, Alexandria, 1 case; Magagha, 1 case, 1 death; Tukh, April 1-15, 4 cases, 4 deaths.
India: General, March 18-25, 61,688 cases, 53,895 deaths; Bombay, April 9-18, 979 deaths; Calcutta, April 8-15, 762 deaths; Karachi, April 9-16, 191 cases, 182 deaths.
Japan: Formosa, April 10, 19 cases, 6 deaths; Hiroshima, April 12, 1 death.
Peru: April 9-16, Chiclayo, 6 cases, 5 deaths; Lambayeque, 1 case; Lima, 4 cases, 3 deaths; Chepen, 1 death; Mollendo, 7 cases, 1 death.
Straits Settlements: Singapore, March 25-April 1, 1 death.

Medical Organization

Illinois.

URBANA MEDICAL AND SURGICAL SOCIETY.—This society was reorganized at Urbana, Ill., May 9, with the following officers: President, Dr. Charles A. Nichols; vice-president, Dr. Austin M. Lindley, and secretary-treasurer, Dr. Elijah S. Smith.

Indiana.

THIRD COUNCILOR DISTRICT MEDICAL SOCIETY.—The first annual meeting of the Third Councilor District of the Indiana State Medical Association was held at New Albany, April 20, Dr. Harry C. Sharp, Jeffersonville, presiding. The following counties were represented: Clark, Floyd, Washington, Orange, Dubois, Harrison, Perry and Crawford, Scott being the only county in the district not represented. The following program was rendered: Councilor's address, "Medical Organization," Dr. Harry C. Sharp, Jeffersonville; "Prostatic Cystitis," Dr. William N. Wishard, Indianapolis; "Expert Medical Testimony," Dr. William J. Purkhiser, Salem; "Postpartum Fever, Its Causes and Significance," Dr. Elihu P. Easley, New Albany; "Some Points in the Surgical Treatment of Gangrene," Dr. Charles P. Cook, New Albany; "Treatment of Fractures of the Patella," Dr. David C. Peyton, Jeffersonville; "Ups and Downs of the Profession," by Dr. Claud T. Hendershot, Cannelton; "Pericarditis with Effusion," Dr. W. M. Marshall Varble, Jeffersonville, and "Autointoxication," Dr. Davis L. Field, Jeffersonville. It was voted to hold semi-annual meetings. The society adjourned to meet in Jeffersonville, October 19.

Kansas.

WABAUNSEE COUNTY MEDICAL ASSOCIATION.—This association, whose preliminary meeting for organization was noticed in THE JOURNAL of May 6, met at Alma, May 9, and perfected its organization, electing the following officers: President, Dr. Colonel E. Smith, Alma; vice-president, Dr. Charles E. Menard, Maple Hill; secretary, Dr. A. A. Meyer, Alma; treasurer, Dr. George N. Jeffers, Eskridge; delegate to the state society, Dr. Owen E. Webb, Paxico, and censors, Drs. George W. Beverley, Alma, Owen E. Webb, Paxico, and A. A. Meyer, Alma.

RILEY COUNTY MEDICAL SOCIETY.—Physicians of Riley County met at Manhattan, February 21, and organized a medical society, with the following officers: President, Dr. Charles F. Little, Manhattan; vice-president, Dr. Lewis J. Lyman, Manhattan; secretary, Dr. James D. Colt, Jr., Man-

hattan; treasurer, Dr. George H. Litsinger, Riley; censors, Drs. Archibald G. Henderson, Leonardville, Claude A. Roberts, Randolph, and Warren D. Silkman, Manhattan, and committee on public health and legislation, Drs. Walter M. Reitzel, Cleburne, William A. McCullough, Manhattan, and Owen E. Edgerton, Randolph.

Mississippi.

TIPPAH COUNTY MEDICAL SOCIETY.—A number of physicians of the county met at Ripley, March 31, on call of Dr. Charles D. Mitchell, Pontotuc, councilor for the third district, and organized a county society. Dr. Charles M. Murry, Ripley, explained the objects of standard organization, and the following officers were elected: President, Dr. Charles M. Murry, Ripley; vice-president, Dr. James H. Pearce, Falkner, and secretary-treasurer, Dr. Robert M. Adams, Ripley.

Missouri.

CARROLL COUNTY MEDICAL SOCIETY.—This society was organized at Salisbury on the standard plan, by Dr. Jefferson D. Brummall, Salisbury, councilor for the second district, May 9. Dr. William C. Baird, Bogard, was elected president; Dr. Stonewall W. Miller, Norborne, vice-president, and Dr. Richard F. Cook, Carrollton, secretary.

KNOX COUNTY MEDICAL SOCIETY.—Physicians of the county met at Edina, April 24, and organized a county medical society with the following officers: President, Dr. Lewis S. Brown, Edina; vice-president, Dr. James Myers, Greensburg; secretary-treasurer, Dr. Henry Jurgens, Edina; censors, Drs. Albert R. Wilsey, Hurdland, James R. Northcutt, Knox City, and George S. Brown, Edina, and delegate to the state association, Dr. Henry Jurgens.

Montana.

PARK COUNTY MEDICAL SOCIETY.—This society has been organized at Livingston on the standard plan, with Dr. Robert D. Alton, Livingston, president; Dr. William P. Reynolds, Aldridge, vice-president, and Dr. John B. Beeson, Livingston, secretary and treasurer.

MADISON COUNTY MEDICAL ASSOCIATION.—This association was organized on the standard plan at Virginia City, May 3, with the following officers: President, Dr. Gay F. Tidyman, Ennis; vice-president, Dr. Peter J. Sheeran, Twin Bridges; secretary-treasurer, Dr. George H. Kennett, Virginia City, and delegate to the state association, Dr. Elmer Sutherland, Sheridan.

New Mexico.

OTERO COUNTY MEDICAL SOCIETY.—Physicians of Otero County met at Alamagordo, March 14, and organized a county society on the standard plan, and elected the following officers: Dr. C. H. Walderschmidt, Alamagordo, president; Dr. Otis W. Miller, Alamagordo, vice-president; Dr. E. B. Van Arsdell, Clouderoft, secretary; Dr. George C. Bryan, Alamagordo, treasurer; Drs. Otis W. Miller, Alamagordo, Hyatt and Kirkpatrick, censors, and Dr. Jesse R. Gilbert, Alamagordo, delegate to the territorial association.

Ohio.

ROSS COUNTY ACADEMY OF MEDICINE.—Physicians of Ross County met at Chillicothe, May 3, and organized a medical society. Dr. Jefferson B. Scearce was elected president, Dr. John W. Maxwell, secretary, and Dr. John M. Leslie, delegate to the state association, all of Chillicothe.

MONROE COUNTY MEDICAL SOCIETY.—With the aid of Dr. James C. M. Floyd, Steubenville, the physicians of the county in convention at Woodsfield, May 5, organized a medical society on the standard plan with the following officers: President, Dr. William G. Webb, Cameron; vice-president, Dr. Alexander H. Korner, Woodsfield, and secretary-treasurer, Dr. Bessie Armstrong, Beallsville.

PORTAGE COUNTY MEDICAL SOCIETY.—Pursuant to the call of Dr. T. Clarke Miller, Massillon, councilor for the Sixth District, physicians of the county met at Ravenna, March 28, and reorganized the county medical society on the standard plan, electing the following officers: President, Dr. William G. Smith, Ravenna; vice-president, Dr. Emmett W. Price, Kent; secretary, Dr. George J. Waggoner, Ravenna; treasurer, Dr. Eugene B. Dyson, Rootstown, and Dr. Bayard T. Keller, Streetsboro, delegate to the state association.

NORTHEASTERN OHIO UNION MEDICAL ASSOCIATION.—At the one hundred and thirty-fourth quarterly meeting held in Akron, February 14, a motion to merge the association with the Ohio State Medical Association was unanimously carried, and it will hereafter form a part of the sixth councilor district. The following officers were elected: President, Dr. Frank C. Reed, Akron; vice-presidents, and the presidents of the component county societies; corresponding secretary, Dr. Charles W. Milliken, Akron; recording secretary, Dr. John H. Seiler, Akron, and treasurer, Dr. Harold H. Jacobs, Akron.

EIGHTH COUNCILOR DISTRICT MEDICAL SOCIETY.—This branch of the state association was organized at Zanesville, January 25, by the councilor, Dr. Edmund C. Brush, Zanesville. Dr. John D. Axline, Shawnee, was elected president; Dr. Charles H. Higgins, Sonora, secretary, and Dr. Fred W. Lane, Cambridge, treasurer. The vice-presidents for the counties making up the district are as follows: Athens County, Dr. Edmund F. Danford, Gloucester; Guernsey County, Dr. Frank M. Mitchell, Cambridge; Licking County, Dr. Ernest J. Barnes, Granville; Morgan County, Dr. Leroy S. Holcomb, Pennsville; Muskingum County, Dr. Abdul M. Templeton, Zanesville; Perry County, Dr. John D. Axline, Shawnee; and Washington County, Dr. Stephen A. Cunningham, Marietta.

Pennsylvania.

LAWRENCE COUNTY MEDICAL SOCIETY.—At the regular monthly meeting of this society at New Castle, May 11, Dr. J. N. McCormack, national organizer of the American Medical Association, delivered an address on organization.

South Carolina.

SPARTANBURG COUNTY MEDICAL SOCIETY.—At a meeting of the county medical society, held in Spartanburg, March 18, reoganization was effected with the aid of Dr. J. Wilkinson Jervey, Greenville, councilor for the fourth district. The following officers were elected: Dr. John O. Vernon, Wellford, president; Dr. Julian H. Allen, Spartanburg, vice-president; Dr. Oliver W. Leonard, Spartanburg, secretary; Dr. James L. Jeffries, Spartanburg, treasurer; Drs. Gaston D. Williams and Hugh R. Black, both of Spartanburg, delegates to the state association, and Drs. S. T. D. Lancaster, Pauline, George R. Dean, Spartanburg, and James L. Jeffries, Spartanburg, censors. The society starts with a membership of 34.

Texas.

UPSHUR COUNTY MEDICAL ASSOCIATION.—The physicians of Upshur County met at Ailmer, January 16, and organized a county association, electing the following officers: President, Dr. Thomas S. Ragland, Gilmer; vice-president, Dr. J. A. Carson, Rosewood; secretary-treasurer, Dr. W. P. Howard; censor, Dr. Charles L. Gregory, Gilmer, and delegates to the state association, Drs. John G. Daniels and H. J. Childress, both of Gilmer.

West Virginia.

PRESTON COUNTY MEDICAL SOCIETY.—Ten physicians of the county met at Tunnelton, pursuant to a call made by Dr. Milton H. Proudfoot, Rowlesburg, reorganized the county society, and applied to the state association for a charter.

Society Proceedings

COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, Portland, Ore., July 11-14, 1905.

Rhode Island Medical Society, Providence, June 1.
Arizona Medical Association, Prescott, June 1-2.
Minnesota State Medical Society, St. Paul, June 1-2.
American Laryngological Association, Atlantic City, June 1-3.
American Laryn., Rhin. and Otol. Society, Boston, June 5-7.
American Orthopedic Association, Boston, June 6-8.
Indiana State Medical Association, West Baden, June 7-9.
Maine Medical Association, Portland, June 7-9.
Wisconsin State Medical Society, La Crosse, June 8.
Amer. Assn. of Genito-Urinary Surgeons, Montreal, June 13-14.
Massachusetts Medical Society, Boston, June 13-14.
American Pedriatric Society, Lake George, N. Y., June 19-21.
Medical Society of New Jersey, West End, June 20-22.
Indian Territory Medical Association, Tulsa, June 20-22.
American Climatological Association, Detroit, Mich., June 28-29.
Michigan State Medical Society, Petoskey, June 28-30.

ASSOCIATION OF AMERICAN PHYSICIANS.

Twentieth Annual Meeting, held at Washington, D. C., May 16-17, 1905.

FIRST SESSION.

President's Address.

DR. E. L. TRUDEAU, Saranac Lake, spoke briefly of the work of the association since its organization 19 years ago.

A Study of the Fear of Cats and the Power to Recognize Their Presence Unseen and Unheard.

DR. S. WEIR MITCHELL, Philadelphia, referred particularly to the 159 replies received to his request for information regarding instances of this power, about one-third being valueless for his purpose. The dread or fear of cats as such does not enter into this discussion. In some instances the results of the presence of cats come on instantaneously, in others the onset is slower. The manifestations vary in different persons, but may amount to chilliness, nausea, convulsions, and even temporary blindness. In one-fourth the cases collected, the condition is a family peculiarity; in one instance 5 of 7 members being affected. Sex has no influence, but the symptoms are more severe in women. Dr. Mitchell has not been able to verify the assertion that George Washington had this aversion to cats. Of the entire number collected, 31 persons are affected by the presence of a cat when the animal is neither seen nor heard. Some persons are thus affected at certain times and not at others. Symptoms thus induced are much the same as in cases in which the cat is seen or heard. Only 4 of the 31 patients say it is because of the odor of the animal; the remainder can not explan how they know of its presence. Dr. Mitchell is inclined to the view that emanations from the animals, not recognized by the olfactory nerves as odors, are responsible for the knowledge and its results. An instance supporting this view is that of one patient who, when young, could distinguish the presence of cats by smell; later she could not recognize any odor but could still detect their presence.

Intrapleural Lipoma.

DR. R. H. FITZ, Boston, said that lipomas may project into the pleural cavity from the diaphragm, costal wall, or mediastinum. The first is an anatomic curiosity. The costal lipoma may penetrate the chest wall and appear externally; three such tumors have been operated on with two deaths. Of the mediastinal type, three which penetrated the thoracic wall have been operated on, all the patients dying. Fitz adds a case of pedunculate intrapleural lipoma arising in the mediastinum, occurring in a young man of 24, who had an attack of lobar pneumonia. Delayed resolution pointed to a complication and signs suggestive of pericarditis developed. Effusion was suspected, and punctures in the fourth and fifth interspaces were made, both yielding no fluid. The chest was then aspirated with the idea of detecting an empyema, but no pus was obtained. Fat adhering to the needle suggested the possibility of a new growth. The patient finally died. A puncture was then made in the right xiphocostal angle and a pint of pus withdrawn. Autopsy showed pneumonia, purulent pericarditis, and a lipoma as large as a child's head situated as before described. The tumor explained the absence of the usual signs of pericarditis. The possibility of diagnosing such tumors by the presence of fat on the needle used for puncture is suggested. The most important point raised is the question of puncturing the pericardium at the point employed postmortem, especially in cases of suspected tumor. Fitz has punctured through the xiphocostal angle in two cases with no untoward results and other observers have reported cases. It seems desirable to use this route when fluid is not obtained by puncture elsewhere. An advantage is that if fluid be not obtained and drainage seems demanded, the puncture may be followed by incision, the insertion of a finger and evacuation and drainage as indicated.

DISCUSSION.

DR. JAMES EWING, New York, exhibited a specimen of lipoma obtained in the dissecting room. It consisted of five lobules, the size of goose eggs, united by connective tissue. It was in the lower part of the left pleura and was joined to the mediastinal tissue over the pericardium by fatty projections and thus partly surrounded the aorta; it also infiltrated the diaphragm. The lung was moderately compressed but not atelectatic. The heart muscle was flabby.

DR. WILLIAM OSLER, Baltimore, agreed with Fitz that in many cases puncture in the right xiphocostal angle is preferable. He observed the result of puncture at this point on bodies coming to postmortem in the Philadelphia Hospital, as to danger of wounding the liver, diaphragm, etc., and found these structures were not involved; in all instances of puncture high up in the angle the pericardium was readily reached. He has used this method on several patients, in one case removing a large amount of fluid when but little was obtained by punctures elsewhere. The liver is depressed, out of the way, when a large amount of exudate is present. Another point emphasized by him is that too frequently we let patients die from a large pericardial exudate, or at least with it. He can recall four or five cases in which this should have been removed, but was unrecognized antemortem. He believes we should more frequently use a small hypodermic needle to explore doubtful cases; no harm is done if the heart is punctured.

DR. G. L. PEABODY, New York, said that pneumonia differs in type in different years. In one case was a mass of fibrinous exudate so thick it could not be detected by a needle and could not have been removed at operation. He believes a safer rule for tapping is to wait until there is impairment of cardiac function; it is not judicious to tap for diagnosis or as a routine in pneumonia.

DR. T. M. ROTCH, Boston, considered the fifth interspace the best place to tap, especially in children.

DR. FITZ, in closing, said the special reason for using the xiphocostal route is that if fluid is not obtained and the symptoms indicate its presence, puncture may be followed by incision; in this way may be reached fluid not otherwise obtained because it is behind the heart.

Rhythmic Lateral Displacement of the Heart as a Sign of Unilateral Pleuritic Exudate.

DR. CHARLES LYMAN GREENE, St. Paul, in 1902 first called attention to this sign, the displacement being synchronous with respiration. Observations during the past three years confirm the original statements and show that the sign is of value in differential diagnosis. Cases were cited to show the application of the sign in pleural exudate, and its absence in other conditions. It is absent in subdiaphragmatic abscess, malignant disease of the lung and pleura, and in pneumothorax. It is best observed by the fluoroscope or by auscultatory percussion. The degree of effusion markedly influences the movement, trifling amounts of fluid failing to respond, and massive effusions showing a minimum displacement. Though sometimes obtained by inspection, such observation is subject to error. Right-sided effusions are more easily recognized. Deep respirations are necessary. Greene doubts that effusions cause the diaphragm to become immovable or to project into the abdominal cavity. He also takes issue with the statement that the fluoroscope is necessary accurately to determine the extent of cardiac displacement, auscultatory percussion and simple percussion having yielded outlines corresponding accurately to fluoroscopic findings. He concludes: 1. A rhythmic lateral movement of the heart occurs in unilateral liquid pleural effusions. 2. Such movement is most marked in medium-sized effusions. 3. The heart approaches the affected side in inspiration and moves outward in expiration. 4. The extent of movement is variable, but often amounts to two inches. 5. It may be measured by fluoroscopic examinations, auscultatory percussion, or in the case of right-sided effusions by simple deep percussion of the free cardiac border, or in some instances by mere inspection of the apex beat. 6. Deep breathing and especially forced expiration are essential to the success of the maneuver and, to obtain this, morphin must sometimes be administered.

Gonorrheal Septicemia and Endocarditis.

DR. W. S. THAYER, Baltimore, said the frequency of gonorrheal endocarditis is now well known, the symptoms differing in no way from those of cases due to other pyogenic organisms. In addition to 8 cases reported by other observers at the Johns Hopkins Hospital, he has seen 2, making a total of 10 cases. The important point is that acute urethritis is not

so infrequently followed by endocarditis. Of particular interest is a case seen last July. The patient was a man of 25, who gave a history of gonorrhea four years before, and was at the time he came under observation not fully recovered from an attack beginning three months previous. He had a fever which developed gradually and lasted for seven weeks. The general appearance was that of typhoid fever; the spleen was palpable and there were spots suspiciously like the rose spots of typhoid. The leucocytes ranged from 9,000 to 12,000, with a slight increase in polynuclears. On the twenty-first day, when they were about satisfied the case was one of typhoid fever, bacteriologic examination of the blood showed a pure culture of the gonococcus. No other lesion was to be found, hence the case was one of gonorrheal septicemia. The points to be noted in this connection are (1) mild continued fever may be the only evidence of a septicemia due to the gonococcus, and (2) gonorrheal septicemia, with no evidence of local complications, may run a course of long duration and closely simulate typhoid fever.

DR. WILLIAM OSLER said that in addition to these mild cases of gonorrheal septicemia of long duration and difficult to differentiate from typhoid fever, demonstration of the organism in the blood being the only method, there are cases of overwhelming intoxication from the gonococcus which at first may resemble typhoid. One case of this sort was mentioned, the patient dying within a week.

Fever in Chronic Endocarditis.

DR. J. S. THATCHER, New York, based his remarks on 901 cases. He divided them into three groups according to temperature range, those having a maximum respectively of 100, 101.5, and 103 degrees. In the first group were 316 cases. Of the 585 remaining, complications, such as articular troubles, petechial or other hemorrhagic eruptions, or frank signs of marked complications, ruled out 294, leaving 291 cases with the temperature above 100 degrees with no apparent explanation of the fever, except in a very few—the presence of bacteria. Of the 23 cases accompanied by hemorrhagic eruptions, 18 proved fatal, showing the seriousness of this type. Notwithstanding this, in the non-febrile group were 5 hemorrhagic cases. Autopsy showed that petechiæ are not necessarily associated with large fungating or ulcerating lesions of the valves, as 3 of 5 cases posted showed such lesions and 2 did not. Of the 291 cases with no distinct complication, 45 per cent. of febrile cases, 172 ranged from 100 to 101.5 degrees, 66 from 101.5 to 103 degrees, and 53 above 103 degrees. An interesting comparison between febrile and afebrile cases shows that in the two groups the percentage of cases with a previous history of rheumatism does not greatly differ. The effect on the kidneys, as shown by the presence of albumin and casts, was also nearly alike in the two series and the leucocyte counts did not vary greatly. As to mortality, the rheumatic cases with fever had a much lower death rate, 7 per cent., than the afebrile, 19 per cent. An interesting question is that of the form of lesion on the valve as compared with the clinical picture. The general rule is that those with fungating vegetations are more apt to be febrile and are also more fatal. To this rule are many exceptions. Of 104 autopsies, 70 on patients who showed no fever revealed either large vegetations or ulcerations; 4 which were called malignant had very slight vegetations.

DISCUSSION.

DR. A. O. J. KELLY, Philadelphia, said that studying endocarditis from the standpoint of general principles readily explains the presence of fever. Endocarditis is simply septicemia, the valve lesions being accidental instead of essential. Hence irregular attacks of fever in endocarditis are not uncommon and are to be expected. For the reason cited, small as well as large valve lesions produce fever. Recurrent attacks are due to recrudescence of the infective process.

DR. A. JACOBI, New York, said it is the custom to diagnose endocarditis because a murmur is present. Not all cases of murmur, even systolic mitral murmur, are endocarditis, many of them being due to myocarditis. Some of these may be traced for years; they may be better at times even to the extent of the murmur disappearing and then become worse. Cases of myocarditis are best diagnosed by the fact that hypertrophy is not present as a sequel of the murmur. In case of long duration the diagnosis of endocarditis should not be made unless hypertrophy is present.

DR. JAMES TYSON, Philadelphia, spoke of the relation between chronic endocarditis and petechial eruptions. A girl of 25, now under treatment, has frequently recurring petechial eruptions and subnormal temperature. The eruptions appear suddenly, are particularly marked on the legs and are invited by the upright posture. They disappear more slowly than they appear. The patient has inveterate but slight anemia.

DR. V. C. VAUGHAN, Ann Arbor, said that all bacteria lower the temperature of the person infected, the exact effect depending on the kind of germ and the rapidity with which it liberates toxins. This explains the usual difference between diphtheria and tonsillitis, the latter having the higher temperature. The lower the temperature in diphtheria the more dangerous is the case because of the rapidity of toxin liberation. For this reason it is not surprising that the death rate in the afebrile cases reported by Dr. Thacher was greater than in those with a higher temperature. William Osler said fever in endocarditis may be in the form of slight recurrent attacks due to little vegetations on old diseased valves, with acute malignant cases that terminate fatally, or in severe cases which end in recovery. One case had several attacks during fourteen years. Totally different are the cases of fever with chronic vegetative endocarditis in which there is nothing but the fever. Some cases last a year. He exhibited a temperature chart of a case lasting a year in which there was fever every day. No emboli were manifest. A mitral murmur was the same all the time. The heart showed chronic vegetative mitral endocarditis with but little erosion. He has had a series of cases, both mitral and aortic, the longest being thirteen months in duration. In these the fever dominated the whole picture. They belong to a type different from the others; they can not be called malignant.

DR. F. P. KINNICUTT, Boston, called attention to the fact that not all cases with symptoms as described by Dr. Osler terminate fatally. He has seen two cases recover; one lasted seven, the other five months. The murmur still persists.

A Case of Hemophilia with Special Reference to Joint Symptoms.

DR. F. P. KINNICUTT, Boston, reported a case possessing many points of interest. The case suggests the possibility of the *de novo* origin of the disease, as there was no family history of the affection. The case was otherwise typical. At the age of 5 began articular attacks which were no doubt hemophilic in origin, as they were preceded by injury. Dr. Kinnicutt saw the patient during seven years and there were recurring attacks of arthritis due to effusion of blood into the joints. The knee joints were particularly involved, and also the elbows. There was high temperature but no redness of the skin over the involved joints. There were also hematomas in the abdominal wall. Finally the joints underwent pathologic changes, and partial ankylosis of some of them resulted. The articular ends of the bones appeared to be enlarged. The patient finally died from what was undoubtedly intra-abdominal hemorrhage. No autopsy was allowed. General consideration of arthropathy in hemophilia shows that it may occur in infancy; both hypertrophy and atrophy of bones occur in late stages. Hemorrhage into joints may be both spontaneous and traumatic in origin. Peritoneal hemorrhage is of rare occurrence.

Clinical Notes on Opium in Myocarditis.

DR. J. H. MUSSER, Philadelphia, said that opium exerts no influence on the morbid process in myocarditis, but in many cases is good for the patient. Its use falls into two groups: (1) the continued use; (2) its use at times during the course of the disease. In the dilation of myocarditis, in asystole, and angina pectoris its use is well known. In general heart weakness and during convalescence from acute valvular dis-

ease it is also valuable. Its continued use in some cases is demanded; in one cited, the only relief obtainable was derived from opium. The drug is of value as a preventive of asystole and other grave accidents. Diuresis is increased for a time in certain cases. In cases of senile weak heart, especially when one wishes to prevent the results of peripheral impressions, the drug is an efficient aid. In cases of chronic myocarditis to prevent and mitigate insults to the weakened heart; the prolonged use of opium is advisable. The drug is not contraindicated in chronic myocarditis complicated by the presence of nephritis. It is valuable in cases of melancholia so often present in these cases, especially when the patient knows his lesion. In the not infrequent cases of hypochondriasis it is well to use opium in addition to the usual supporting treatment. Often it is better to rely on this than on the cardinal drugs usually prescribed.

DISCUSSION.

DR. M. H. FUSSELL, Philadelphia, cited a case of severe nephritis during the course of myocarditis in which small doses of morphin hypodermatically gave very happy results. The patient improved rapidly and continued so for several weeks.

DR. BEVERLY ROBINSON, New York, decides on the administration by the condition of the pupils; if they are dilated, he gives opium.

DR. A. JACOBI, New York, agreed with the statements of Dr. Musser. In many cases in which opium is useful, strychnin is to the same degree harmful.

(To be continued.)

ILLINOIS STATE MEDICAL SOCIETY.

Fifty-Fifth Annual Meeting, held at Rock Island, May 16-18, 1905.

Under the Presidency of Dr. William E. Quine, Chicago.

Officers Elected.

The following officers were elected for the ensuing year: President, Dr. H. C. Mitchell, Carbondale; vice-presidents, Drs. W. K. Newcomb, Champaign, and M. S. Marcy, Peoria; secretary, Dr. E. W. Weis, Ottawa (re-elected); treasurer, Dr. E. J. Brown, Decatur (re-elected). Springfield was selected as the next place of meeting.

PAPERS OF THE MEDICAL SECTION.

The scientific work was divided into two sections, medical and surgical.

The Optional Disease.

DR. HEMAN SPALDING, Chicago, discussed the symptomatology and differential diagnosis of smallpox, and showed lantern slides made from photographs taken of patients at the Chicago Isolation Hospital. He also quoted the statistics of the Chicago Department of Health, showing the incidence and death rate of the disease in vaccinated and unvaccinated persons, and described the methods of vaccination. He emphasized the exercise of caution in using an efficient virus. Failure to obtain a "take" is usually due to an inert virus; sometimes it is due to improper technic in vaccinating.

Pericarditis.

DR. J. H. BACON, Cleveland, Ohio, discussed the clinical history of the various forms of pericarditis and described a new method of tapping the pericardium. A small trephine opening is made opposite the fifth intercostal space between the midsternal line and the left border of the sternum. The finger is inserted through this opening, adhesions are broken up, and the pericardium is opened. In cases of purulent pericarditis, to prevent infection of the sternum and a subsequent osteomyelitis, the posterior surface of the sternum is covered freely with 10 per cent. iodoform-paraffin or wax. He also suggested that in cases of adherent pericardium the patient's life can often be saved by making a similar opening and loosening the adhesions between the two layers of the pericardium in the same manner as uterine adhesions are liberated. He detailed experiments on dogs that were carried on by him, showing the feasibility of this procedure.

Present Status of Serum-Therapy.

DR. E. R. LARNED, Chicago, defined serum-therapy, and then classified the sera as used in medicine under (a) curative sera and (b) diagnostic sera. He also presented a classification of sera as to efficacy, (a) those of demonstrated efficacy; (b) those whose value appears probable but remains to be proved, and (c) those whose efficacy is *nil*. He described the methods used in the elaboration of sera; and gave a brief outline of the present status of the following sera: (a) Those of demonstrated efficiency are antidiphtheritic, antitetanic, antiplague, antistreptococcic, and sera for exophthalmic goiter. (b) Those whose value appears probable, but remains to be proved, such as serum for hay fever, tuberculin, antityphoid, antirabic, antitubercle, and antivenin. (c) Those whose efficiency is *nil* are antipneumococcic sera, antiscarlatinal sera, antidysenteric sera, antivarioloid sera, antitoxin for cerebrospinal meningitis, serum for rheumatism, serum for syphilis, serum for anthrax, cancer serum, and leprolin.

Scrofula.

DR. HENRY G. ANTHONY, Chicago, said that scrofula is a factor in dermatology, the importance of which is variously estimated, chiefly because of the diversity of opinion which existed as to what is meant by the term. He emphasized the fact that scrofula is not tuberculosis. Children with tuberculosis of joints do not present the various lesions which occur in the eye and skin of scrofulous patients. It requires nose and throat lesions to produce the clinical picture of scrofula. These nose and throat lesions are not tuberculosis, and the nasal and throat secretions do not contain the bacillus tuberculosis. Clinically and microscopically, the disease is a pyogenic infection of the nose and throat. Tuberculosis readily develops on the pyogenic infections, but this can never be determined clinically, and that is the reason so many believe that the disease is tuberculosis. When a chronic pyogenic infection of the nose and throat is present, it spreads to the ear, eye, skin, glands, and bronchial tubes. The eruption of the skin which occurs from this spreading of pyogenic infection is impetigo and not eczema, of which two varieties were mentioned, one of which is a varicella-like eruption. Eczema may occur in scrofula, but the cases which are usually called eczema are really impetigo. The author has observed that sweating of the hands and feet is an important symptom in the disease. Scrofuloderma is subcutaneous tuberculosis, and lichen scrofulosorum is a tubercular toxemia which occurs in all forms of tuberculosis. The severest of all cases are those in which the infection has extended to the bronchial tubes.

The Educational Treatment of Neurasthenics.

DR. CHARLES D. CENTER, Quincy, believes that cases of neurasthenia are increasing in number very rapidly. He showed that a rather definite percentage of the symptoms of a neurasthenic are illusory or hallucinatory in character, and also claims that practically every case has one chief obsession, and when this is overcome or removed, all lesser symptoms are either abated or are relieved entirely. Reference was made to the use of strychnin in these cases, and it is found that the majority are made worse by its administration. The author emphasizes the need of getting hold of the mentality of each case of neurasthenia, believing that it is more essential to treat the mind than the body.

Late Hereditary Syphilis.

DR. R. R. CAMPBELL, Chicago, said in establishing a diagnosis of hereditary syphilis there are three valuable points known as the triad of syphilis—Hutchinson's teeth, interstitial keratitis, and a particular form of deafness. He reported several cases of late hereditary syphilis gleaned from the literature, and others that had occurred in his own practice.

The Climatic Treatment of Tuberculosis, with Special Reference to Colorado.

DR. CLARENCE L. WHEATON, Chicago, spoke of the mortality from tuberculosis and the period of life at which death occurs during the last census year. He alluded to the necessity for enforcing laws relating to hygienic and sanitary measures, to the establishing of state sanatoria for the care of the tuber-

culous poor, etc. He referred to the success of the Ottawa tent colony in the treatment of this disease, and said the tuberculosis problem is to be solved at home, based on a study of conditions in Colorado, Arizona and New Mexico. A knowledge of meteorological facts and climatic data is essential in prescribing climate.

Diet in Tuberculosis.

MISS ADELLA SATER, Ottawa, stated that the appetite is not a reliable criterion as to the amount of food that may be taken and digested by the patient. Hygiene and diet are the foundation stones on which may be constructed successful therapeutics in the cure of tuberculosis.

Indormescent Shocks.

DR. HUGH T. PATRICK, Chicago, calls them indormescent because they ordinarily occur just as the patient is falling asleep. These shocks may be divided, roughly, into motor and sensory. Mild motor shocks, or simple shocks, may be regarded as normal, but in some persons they reach a degree which is pathologic, and in others attain a violence sufficient to make them worthy of medical consideration and special treatment. The sensory form may affect general sensation or the special senses. The manifestation occurs as a symptom of functional disease, and in the vast majority of cases is of no grave significance, although the shock is a most alarming sensation for the patient. Illustrated cases were cited, and the treatment given.

The Practical Significance of Certain Symptoms in the Upper Abdomen.

DR. J. F. PERCY, Galesburg, said that the overlooking in this region of the pathology on which these symptoms are based is one of the strange chapters in the history of diagnosis. The common symptoms are pain due to cholecystitis, ulcer of the stomach and of the duodenum, together with the formation of gas due to inhibited peristalsis. Vomiting is also mentioned, but nausea is a more prominent symptom than the former. Bleeding is also to be noted as one of the symptoms. The significance of these can best be determined by percussion, palpation, and noting costal resistance, especially in the right side. Laboratory methods are of confirmatory value only. Alone they can not make the diagnosis. The periodicity of the attacks from ulcer of the stomach and the duodenum was insisted on, as was also the fact that the cholecystitis or an ulcer of the stomach accounts for many of the chronic lesions of the liver and the pancreas. Both of these facts are new to the literature of this subject.

The Tuberculosis Problem in Illinois.

DR. HOMER M. THOMAS, Chicago, stated that the main factor in the solution of the tuberculosis problem in this state is to secure for patients an abundance of pure air. Tuberculosis in Illinois concerns sources of impure air. These are mainly the home and the workshop. Tuberculosis is a house disease. The house is the granary of the bacillus. Houses of one kind and another are the ordinary means of spreading disease. The workshop comes next. This is so because it takes prolonged intimate contact with a person, place, or thing that has been intensely contaminated with tuberculosis matter to give rise to implantation. Probably three-fourths of all cases of the disease conveyed from person to person are contracted in the home, and one-fourth through the workshop and environment. Homes should be made clean, dry, airy and bright. Buildings in which men and women are employed should be made sanitary, and should have a correct standard of air supply and light supply.

The Irido-Choroidal Form of Parenchymatous Keratitis, with Loss of Both Eyes.

DR. CHARLES H. PROBST, Peoria, said that if iridectomy is to accomplish anything, it should be performed early in the disease, before iridic adhesions had taken place, or before an advanced irido-choroiditis has a chance to develop. On several occasions he has performed iridectomy in the very beginning of the irido-choroidal form of parenchymatous keratitis, with excellent results.

Mixed Infection in Consumption.

DR. ETHAN A. GRAY, Chicago, emphasized the necessity of recognizing the presence of more than one infection in pulmonary tuberculosis. Secondary or so-called mixed infections are the chief agencies in producing the symptom-complex, consumption. As to the course of mixed infection, there is danger of mistaking it for la grippe, malaria, colds, etc. Occasionally pleurisy and bronchopneumonia are expressions of mixed infection. Hemorrhage from eroded arteries is a factor in spreading infection. A diazo-reaction does not always mean a fatal prognosis. The treatment should be largely hygienic and climatic, but this is uncertain so far as checking the toxemia is concerned.

Reference was made to the value of streptolytic serum; amount administered, 10 c.c. daily, for six days; treatment is then discontinued until reaction has passed. Usually cough and expectoration are diminished to a minimum, sometimes altogether. The phenomena of reaction were pointed out. There is a diminution in the number of tubercle bacilli unless the sputum is greatly concentrated; normal pulse and temperature. Severe cases only approximate the normal. Serum does not cure tuberculosis, but only clears out bacteria and their toxins, leaving a better field in which to fight the tubercle bacillus. Seven cases are cited, in all of which the septic fever was materially influenced.

The License and Control of the Practice of Medicine in Illinois.

DR. GEORGE W. WEBSTER, Chicago, said that during the session of the forty-third general assembly a bill was introduced creating a board of examiners. Owing chiefly to want of harmonious action on the part of the legislative committee of the Illinois State Medical Society, it failed to become a law. At the present time the chief functions of the Illinois State Board of Health are the general supervision of all sanitary and public health matters, and quarantine in the state, the examining and licensing of physicians and of "other practitioners," the licensing of embalmers, the licensing of midwives, the inspection of lodging-houses in all cities of 100,000 inhabitants and over. The board established a schedule of minimum requirements for medical colleges, making a high school education the preliminary entrance requirement, prescribed the length of the term, which must be not less than seven months, no two courses to be given in the same calendar year of time, prescribed the minimum number of hours of instruction in each term, the studies of the curriculum, the character of the college equipment, and all those colleges complying strictly with these rules were considered in good standing with the board. This simply admitted them to the examination. If their credentials were found satisfactory, and if they possessed a diploma from a recognized school and sustained a satisfactory examination before the board, they were then licensed. The other practitioners referred to are mostly osteopaths, and this term refers to the licensing of all those who treat human ailments without the use of drugs, or by mechanical appliances.

Some Phases of Disordered Metabolism in Nephritis.

DR. RALPH W. WEBSTER, Chicago, said that nephritis is primarily a constitutional disease, with secondary manifestations in the kidney. The close relationship between the findings in the so-called febrile albuminuria and those in typical nephritis are so marked that a common constitutional condition in each must be granted. All of the causative factors of nephritis produce metabolic disturbances which result in the production of toxins, irritant poisons, changes in the properties of the blood, both physical and chemical, and various other pathologic abnormalities which in themselves cause irritative, and later inflammatory lesions in the kidney resulting in nephritis. A large number of metabolic changes may be directly traceable to the nephritis itself.

The author discussed only the points of chlorid retention, edema and uremia. The retention of chlorids in nephritis is granted, but their relation to edema seems to the author still debatable inasmuch as present knowledge regarding the pathology of albuminuria and edema is not sufficient to warrant

the ascribing of a specific influence to the chlorids in edema over and above that of other salts. A discussion of the relation of chlorid intake to increased albuminuria was given, in which the author concluded that in this connection NaCl may act as a specific.

Concerning the theories of edema, those of Cohnheim, Kövesi and Roth-Schulz, and von Kiranyi received attention. The author showed the importance of osmotic changes in the production of this symptom of nephritis. The relation of the amount of water taken in has a double importance in increasing a hydremia and increasing the work of the heart. With regard to the uremia, it seems that one must at present accept the idea of Senator and assume that this condition is purely a group of symptoms brought about through disordered metabolism as a result of lesions in an insufficient kidney, which lesions have, in their turn, been caused by attempts on the part of the kidney to eliminate products of an abnormal metabolism, the result of a specific or non-specific toxemia.

DR. CHARLES L. MIX, Chicago, discussed the diagnosis of chronic nephritis.

Ocular Manifestations of Chronic Nephritis.

DR. LEIGH E. SCHWARTZ, Chicago, drew the following conclusions: 1. An ophthalmologic examination should be made in all cases where nephritis exists or is suspected. 2. The non-existence of retinitis must not be inferred because visual disturbance is absent. 3. Ocular manifestations are invaluable where nephritis without albumin exists. 4. The severity of the renal symptoms does not influence those of the eye. 5. Retinal changes may occur before any definite clinical symptoms of nephritis develop. 6. Unilateral retinitis gives a relatively hopeful prognosis. 7. Retinitis may be the first indication of nephritis, even in the later stage. 8. The prognostic value of the hemorrhagic type is not greater than that of other forms of albuminuric retinitis.

Medical Treatment of Nephritis.

DR. ARTHUR R. ELLIOTT, Chicago, presented this subject in the following order: First, treatment of chronic nephritis without dropsy; second, treatment of chronic nephritis with dropsy; and, third, treatment of uremia. After discussing the subject at great length under the above heads, the author closed by saying that there is no room for pessimism in our attitude toward this disease, and while obviously there is no remarkable cure to be performed by any mode of treatment, careful regulation of life and attention to little details will secure results which are unsurpassed in any of the chronic dystrophies. The two most important indications are to protect the patient from intercurrent acute disturbance, and maintain the compensatory adjustment in the circulation.

Ideals and Practices of the Medical Profession.

This was the title of the president's address by Dr. William E. Quine, Chicago. He stated that standards differ in different sections and even under different conditions in the same society. It is a fact of familiar knowledge that offenses committed by physicians against the public conscience may be easily tolerated by their own organizations; but offenses against the technical standards of the organizations themselves, although quite unnoticed by the community at large, are liable to severe and lasting penalties, especially if the culprit be of humble rank and without friends. Among misdemeanors of this kind he mentioned advertising in the public prints; the exploitation of remarkable cures and operations; the holding of patents on articles used in the practice of medicine; the pretense of possessing an infallible law of cure; and the acceptance by physicians of commissions on their prescriptions, or on needed appliances which they are instrumental in selling, or on the fees of surgeons received for operations on the physician's patients. Such acts are always small, and surreptitiousness makes them mean; but he fails to see in them convincing proof of gross moral obliquity. Most of them are quite compatible with honorable standing in the community; and yet they are stigmatized, and properly so, by the unanimous vote of the organized profession of the country as derogatory to professional character and incompatible with honorable standing in the profession; and hence are subject to penalty within the organization and profession itself. On the other hand, when physicians violate the public's standards of morality, and thereby bring on themselves public disrepute, their professional standing may be saved from challenge in medical organizations. Such discrimination is neither creditable nor defensible. A life sentence of ostracism should never be inflicted for mere technical transgressions, nor for any others, except such as constitute *prima facie* evidence of depravity of heart.

What We Must Learn and Unlearn in the Treatment of Tuberculosis.

DR. J. W. PETTIT, Ottawa, in his address in medicine, said that it is now a well-established fact that climate is an unimportant factor in the treatment of tuberculosis. Because the medical profession has learned the utter futility of drugs in the treatment of this disease, their responsibility has not ceased. Physicians should guide patients when they do not treat them. A mistake has been made in regarding fresh air as the *sine qua non* in the treatment of tuberculosis. Nutritious food, regular rest and exercise are each of essential importance. There is much to be learned in regard to the housing of tuberculous patients. As to the use of tents, it has been demonstrated that the tent is practicable in cold climates. It fulfills the conditions most perfectly from a scientific standpoint. A practical point essential to success is the importance of an early diagnosis in this disease.

(*To be continued.*)

NATIONAL ASSOCIATION FOR THE STUDY AND PREVENTION OF TUBERCULOSIS.

First Annual Meeting, held at Washington, D. C., May 18-19, 1905.

The President, DR. EDWARD L. TRUDEAU, Saranac Lake, N. Y., in the Chair.

GENERAL MEETING.

The Necessity for Education.

DR. EDWARD L. TRUDEAU, the president, spoke in his address of the pathologic, bacteriologic, and clinical advances which we have made in our knowledge of the disease until tuberculosis is now recognized as transmissible, preventable, and, in the earlier stages and in certain types, curable.

Individual effort can accomplish little against it; the watchwords of the new association should be organization and cooperation. The first problem is to combine and to direct individual efforts, preferably by bringing each state into touch with the national organization. The first and greatest need in the work is education; if every man and woman in the United States was thoroughly familiar with the disease and with the simple means effective in its prevention, tuberculosis would soon disappear. The duties of states are in establishing higher standards of hygiene, segregating the tuberculous, erecting sanatoriums, dispensaries and laboratories for research. Medical schools should give special instruction to their students, especially in the diagnosis of tuberculosis; too often they are presented the picture of advanced, instead of incipient, cases. In this line, summer courses in sanatoriums could well be given. The dangers of tuberculin in diagnosis have been exaggerated and Dr. Trudeau hopes the association will be a medium for disseminating exact knowledge regarding this agent and its employment. Conditions in the United States now point to increased research work and for this are needed laboratories and endowments, as it is to this branch we must look for the solution of many problems concerning the varieties of the tubercle bacillus, the chemistry of its toxins, and natural and artificial immunity.

Methods of Education of the Public.

DR. WILLIAM OSLER, Baltimore, in his vice-president's address, said that the one important thing is education. We possess a remarkable amount of knowledge regarding tuberculosis but the association must make it effective. Three parties are to be educated: the public, the profession, the patient. The

public is awake in this regard but is still sitting on the edge of the bed, half-dressed. It has three things to do: 1. To enact good laws (such as those in New York). 2. Properly to care for hopeful tuberculous cases. 3. To make provision for hopeless cases. The education of the profession includes three points: 1. They must know that early recognition is the first and most important thing. 2. They must recognize practically the efficiency of open-air treatment. 3. They must educate medical students; this is of paramount importance. For this purpose, general hospitals associated with medical schools should receive acute cases of tuberculosis and also a few early cases for demonstration. A second most important function of general hospitals in this line is the maintenance of a tuberculosis dispensary. The education of the patient can be possible only when he knows the nature of his ailment; no greater mistake was ever made than to withhold from an early case the knowledge that he has tuberculosis. Dr. Osler closed by paying an eloquent tribute to Dr. Trudeau for his early recognition of the true method of treating tuberculosis and for his convictions in carrying it out.

Reporting and Registration of Tuberculosis.

DR. HERMANN BIGGS, New York, in his address as vice-president, said that, though the need of enforced registration is now very generally admitted, it practically does not exist outside of New York City except in a few small cities in this country and in Great Britain. Constant pressure is needed on physicians and authorities who do not believe in compulsory registration. It is true that over-enthusiasm on the part of the younger men for too radical measures may do more harm than the conservatism of others who antagonize such advances, but the golden mean can be obtained only by judicious and insistent pressure in the direction shown by experience to yield the best results. This antagonism has been met in New York until now there is no serious opposition by the profession or the public. In fact, there is less difficulty than in enforcing measures of protection against scarlet fever or diphtheria. Dr. Biggs is thoroughly convinced that systematic work against tuberculosis can never be done without enforced registration as a basis.

Responsibilities of the Layman in the Prevention of Tuberculosis.

MR. TALCOTT WILLIAMS, Philadelphia, delivered the address at the evening session. Individual responsibility is great. There are great responsibilities of philanthropic aid, but there is also the danger of fostering pauperism. No profession gives so much to mankind as do physicians and no other people give so indiscriminately. Hospitals in the various cities should unite in maintaining a central bureau for investigating persons applying for free treatment, this being particularly needed for the tuberculous.

Resolutions.

Resolutions were passed at this session asking for inquiry regarding the conditions under which employes in government workshops and offices are compelled to labor; calling attention of municipal authorities to the need for legislation and for the appropriation of funds to aid in the work against tuberculosis; and asking the officers of insurance associations to consider means of combating tuberculosis among their policy holders and also asking them to attend the future meetings of the association.

Officers for the Ensuing Year.

The election resulted as follows: President, Dr. Hermann M. Biggs, New York; vice-presidents, Drs Lawrence F. Flick, Philadelphia, and Vincent Y. Bowditch, Boston. Dr. William Osler was elected honorary vice-president. The directors of the association elected were Drs. E. P. Bicknell, V. Y. Bowditch, J. S. Fulton, C. O. Probst and W. S. Carter, and Mr. Henry Phipps.

SOCIOLOGIC SECTION.

Health as an Investment.

MR. HOMER FOLKS, New York, made an address as chairman of this section. 1. Tuberculosis is the leading cause of death in this country; 2, in the past 2 or 3 decades we have learned much regarding the disease and how to control it, particularly in the way of prevention. From this basis the question inevitably occurs to a layman, namely, if tuberculosis is a preventable disease, why is it not prevented? All the reasons given in answer to this question, Mr. Folks condenses into one, namely, we do not realize the value of public health as an investment; we are not yet ready to devote sufficient means to the saving of human life, even when the opportunity is placed squarely before us. Health authorities are given woefully inadequate sums of money to carry on the work they should do. The postage alone of a communication sent to every voter in greater New York costs $60,000 and this is repeated several times in some campaigns. This particular method might not be the best in campaigning against tuberculosis but the work to be effective must be carried on with something of this magnitude. After comparing the value of freedom from tuberculosis with the so-called "permanent" improvements of cities, Folks concluded that municipalities would be justified in using their credit for funds for the former just as they now do for the latter purpose.

A Working Program for Associations for the Prevention of Tuberculosis, National, State, and Local.

MR. EDWARD T. DEVINE, New York, detailed a program possessing 10 features: 1. The maximum of fresh air and sunlight for all mankind; 2. An abundance of simple and yet sufficiently varied and nourishing food; 3, early diagnosis of every case of pulmonary tuberculosis; 4, registration of all cases; 5, the establishment of institutions for advanced cases; 6, the establishment of state, municipal and private sanitariums for early cases; 7, publicity of the means of preventing infection; 8, conferences for interchange of views among workers; 9, relief in various forms but mainly in the shape of special diet for those being treated at home; 10, further research. To the task of establishing institutions must be added that of educating the rank and file of the medical profession and finally the greater task of creating a sound public opinion "midway between indifference and phthisiophobia, an enlightened public opinion in which everyone is frightened just enough to act sensibly and not enough to act foolishly; just enough to ensure necessary public appropriations and private donations, but not enough to make it difficult for a cured and educated consumptive to find a job; just enough to cause the railways to disinfect the hangings of a sleeping car and the cushions of a day coach, but not enough to cause them to refuse to an indigent consumptive girl, on her way to a sanatorium, the charitable reduction which is given to other indigent persons; just enough to cause the city to build a sanatorium, but not enough to induce the legislature to permit local prejudice to close county after county to the urgently needed sanatorium, except on a bribe to the county commissioners and the township trustees."

Progress of the Sanatorium Movement in America.

MR. WILLIAM H. BALDWIN, Washington, traced the progress of this movement from Dr. Trudeau's Saranac venture 20 years ago to the present widespread adoption of this plan of treatment. Now there are 135 institutions of various kinds, new and old, in 33 of the states and provinces in the United States and Canada, caring for the tuberculous. One-third of the number is in New York and Pennsylvania. The total capacity is 8,400 persons, 30 per cent. of these being in New York. The first sanatorium to be established by a state or provincial association was the Muskoka Cottage Sanatorium at Gravenhurst, Ont., in 1897. The first state sanatorium was erected by Massachusetts at Rutland, in 1898. The first municipal sanatorium was established by Cincinnati in 1897. Sanatorium treatment has demonstrated 3 things: 1. Climate is not an essential or even the most important feature; 2, Necessities are fresh air, rest, nourishing food, and regular habits; 3. In a sanatorium medical superintendence is the most essential factor.

Infection in Transportation.

DR. H. M. BRACKEN, St. Paul, spoke of the methods which were used in railway car sanitation and of efforts to bring about their betterment.

DISCUSSION.

Discussion of these various papers followed by prominent workers in this cause, the subjects being treated in all their various phases.

(To be continued.)

FLORIDA MEDICAL ASSOCIATION.

Thirty-Second Annual Meeting, held at Jacksonville, April 19-21, 1905.

The president, Dr. Edward N. Liell, Jacksonville, in the chair.

Welcome.

Addresses of welcome were delivered by Mayor George M. Nolan on behalf of the city, by President C. E. Garner of the Jacksonville Board of Trade on behalf of that body, and by Dr. James D. Love, Jacksonville, on behalf of the Duval County Medical Society. Dr. William L. Hughlett, Cocoa, responded to the address of welcome.

President's Address.

The president, DR. EDWARD N. LIELL, in his annual address on "The Medical Profession in Its Relation to the Elimination of Communicable Diseases," paid especial attention to the progress in the knowledge of the causation of communicable diseases, and the factors involved in natural resistance and acquired immunity. He lauded the important steps taken in the direction of serum therapy, bacteriology, and the spirit of research which now penetrates almost every department of human activity. He gave due credit to the various institutions of the country which are promoting individual research and thus advancing the science of medicine. He considered that no field of medical research was more promising for investigation than that of the composition and chemistry of the blood. He mentioned the school as a potent factor in the propagation of disease, and stated that a systematic daily medical education of school children was demanded by the preventive medicine of to-day. By the improvement of our public health service will communities in general receive the benefits to which they are entitled by virtue of our advanced knowledge as to the origin and transmission of disease.

Councilors' Reports.

Councilors representing the first, second, third, fourth, seventh and eighth districts made their reports. There are at present only four counties in the state in which the medical profession is not organized, namely, Hamilton, Columbia, Orange and Putnam.

Medical Legislation.

DR. J. HARRIS PIERPONT, Pensacola, gave a history of the medical legislation of the state, with special reference to the matter of medical examining board laws. The chief forms of opposition encountered were those of the homeopaths and eclectics who have mistakenly thought that the bills were drawn to inflict on them injustice and hardship; the Eddyites, who feared that a just law would protect the public from their unchristian and unscientific practices; certain members of the regular profession and some of the present members of district examining boards who thought a central state board would prove a great hardship to undergraduates by reason of the necessary expense of taking the examination. Among other questions of interest to the profession he mentioned the inadequate compensation ($10) for making postmortem examinations; the gross injustice of allowing physicians only $1 a day when called on to give expert testimony and the unjust license tax imposed on physicians.

Annual Oration.

DR. ROBERT H. MCGINNIS, Jacksonville, delivered the annual oration on "The Superior Man—The Physician's Opportunity in His Consummation." The superior man, said the orator, must be born under the auspices of health and vigor; nourished by the advice of preventive, protective and progressive science; reared and nurtured in an atmosphere of, and surrounded by, the preservative influences of hygiene, sanitation and disinfection, directed by the experiences and the wisdom of the medical man.

Feeding in Typhoid Fever.

DR. WILLIAM L. HUGHLETT, Cocoa, made a strong argument against injudicious feeding of typhoid patients. He believed that during the first two or three weeks of fever, during the stage of active inflammation, feeding does more harm than good, and is more liable to provide culture media for germs than sustenance for vital forces. The essayist has lost all dread of typhoid fever patients starving to death. His plan of treatment, in brief, is to have the patient in a quiet, cool room, to clear the bowels first with calomel and soda, and by occasional, gentle purges, if necessary; to give plenty of water to drink, lemonade and fruit juices, a small quantity of liquid food if desired during the first two or three weeks; to control the temperature by cold baths or frequent sponge baths, with symptomatic remedies as may be required.

Election of Officers.

The election of officers resulted as follows: President, Dr. James M. Jackson, Jr., Miami; vice-presidents, Drs. James F. McKinstrey, Gainesville; Henry E. Palmer, Tallahassee, and Jay H. Durkee, Jacksonville; librarian, Dr. James D. Love, Jacksonville (re-elected), and councilors, Drs. William L. Hughlett, Cocoa, for the seventh district, and Dr. James H. Hodges, Gainesville, for the fifth district.

Gainesville was selected as the place for the next meeting and the date was fixed at the third Wednesday in April, 1906.

NEBRASKA STATE MEDICAL ASSOCIATION.

Thirty-Seventh Annual Session, held in Beatrice, May 2-4, 1905.

The President, DR. ROBERT C. MCDONALD, Fremont, in the Chair.

Welcome.

Contrary to the ordinary rule, the association held an afternoon session and the formal welcome was not given until the evening session, when on behalf of the city Rev. George W. Crofts welcomed the visiting physicians. In the conclusion of his address he made an eloquent tribute to the heroic element in the physicians' profession, and said that in times of pestilence he has stood nobly at his post when nearly all others had deserted.

DR. ALEXANDER S. VON MANSFELDE, Ashland, in his response to the address of welcome spoke of legislation bearing on the practice of medicine and commented strongly on the too common practice of prenatal destruction of human life.

President's Address.

DR. ROBERT C. MCDONALD, Fremont, in his presidential address, commended the county societies on the general interest taken in the work of organization; referred to the failure of the medical practice act by reason of the veto of the governor and considered that some of the inferences of the governor in vetoing the bill were unwarranted. He believed that state care of the insane should not be made a matter of politics; favored a state sanitarium for the treatment of tuberculosis and popular education on this and other matters of health, and in closing censured the newspapers which accept advertisements of advertising specialists.

Banquet.

The annual banquet was preceded by an illustrated lecture on the "Yellowstone Park" by Charles Truax, Chicago. Nearly 200 guests were present at the banquet, over which Dr. Ernest J. C. Sward, Oakland, officiated as toastmaster.

Election of Officers.

The election of officers resulted as follows: President, Dr. August F. Jonas, Omaha; vice-presidents, Drs. Benjamin F. Farley, York, and Samuel K. Spalding, Omaha; recording secretary, Dr. A. D. Wilkinson, Lincoln; corresponding secretary and librarian, Dr. H. Winnett Orr, Lincoln; treasurer, Dr. Alexander S. von Mansfelde, Ashland; delegate to the American Medical Association, Dr. Ira N. Pickett, Odell.

Lincoln was selected as the next place of meeting.

MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND.

107th Annual Meeting, held at Baltimore, April 25-27, 1905.

Officers Elected.

The following officers were elected: President, Dr. Samuel T. Earle, Baltimore; vice-presidents, Drs. Charles O'Donovan, Baltimore; Thomas M. Chaney, Baltimore, and Joseph B. Seth, St. Michaels; secretary-treasurer, Dr. John Ruhräh, Baltimore.

Reports.

Delegates were present from every county, except one, only a provision organization having been effected in Charles County.

Dr. Wilmer Brinton, Baltimore, reported for the trustees that application had been made for the endowment of rooms in the Osler Library Building in honor of deceased physicians. The chairman of the Osler Memorial Fund announced that $20,000 had been subscribed and that $20,000 more would be forthcoming. The report of the library showed that it possessed 14,590 volumes. The memoir committee reported the death of 16 members. The number of members registered was 238, although fully 350 attended. There were present 26 delegates from the counties. A resolution was adopted endorsing the proposed Baltimore sewerage system.

Want New Practice Law.

The report of the Board of State Medical Examiners urged the securing of a new medical law with increased standards for license and inspection of medical colleges. The Maryland license is now recognized in the following states: Delaware, Georgia, Illinois, Iowa, Indiana, Kansas, Maine, Michigan, New Hampshire, Nebraska, Ohio, South Carolina, Texas, Vermont, Virginia and Wisconsin. It is in process of adjustment in Oregon, Wyoming and the District of Columbia.

A committee of nine was appointed to draft a new medical law in accordance with the suggestions of the board. There was some criticism of the examination questions of the board on the part of representatives of the colleges. A change was made in the personnel of the board, Dr. Eugene M. Vanness, Baltimore, the president, withdrawing, and the vacancy being filled by the election of Dr. William M. Dabney, Baltimore.

Medical Defense Adopted.

A plan of medical defense of members was adopted, to be applicable in all cases of suit against members, except in criminal cases, the expense being assumed by the society.

The Osler Address and Presentation of Portrait.

DR. WILLIAM OSLER'S address on "Unity, Peace and Concord" will be published in THE JOURNAL.

Following the address a portrait of Dr. Osler, painted by Mr. Thomas C. Corner, Baltimore, the gift of professional friends and admirers, was presented to the society by Dr. Robert W. Johnson, Baltimore, and was accepted with appropriate remarks by the president, Dr. Edward N. Brush.

Dr. Simon Baruch, New York City, delivered an address on "Hydrotherapy in Chronic Diseases." Dr. Edward N. Brush, Baltimore, spoke on "The Physician as a Citizen"; Dr. Clarence J. Blake, Harvard University, on "Collaboration in Medical Education"; Dr. William H. Welch, Baltimore, on "Preventive Medicine"; Dr. Isaac E. Atkinson, Baltimore, on "Modern Therapeutics," and Dr. Robert W. Johnson, Baltimore, on "The Debt This Generation Owes to Surgery."

Annual Banquet.

In the evening the annual banquet took place at the Stafford Hotel, where speeches were made by Governor Warfield, Mayor Timanns, Dr. Clarence J. Blake, Boston; Rev. Donald Guthrie, Mr. George W. Whitelock, and others.

Cancer in Baltimore During the Last Fourteen Years.

DR. C. HAMPSON JONES, Baltimore, exhibited a chart of the city showing the occurrence of every case of cancer in Baltimore during 14 years. The even distribution of the deaths was remarkable and there were no "cancer houses." There was no evidence of a general increase in proportion to the population, but the figures showed a greater prevalence in the white race.

DR. WILLIAM H. WELCH, Baltimore, thought this might be due to the longer lives of the whites. He also thought that any apparent increase of the disease in the population at large might be explainable (1) by the increased life limit, (2) by the improved diagnosis. It is chiefly in internal cancer that the increase is reported, not in accessible parts, as lips, etc.

Tetanus Successfully Treated with Antitoxin.

DR. CHARLES F. DAVIDSON, Easton, reported the case of a boy, 12 years old, who suffered from what appeared to be the effects of poison oak on the face and temples. Two days later he went bathing in a dirty stream of water. Shortly after he had a high temperature, and pus formed under the scalp and throughout the left arm, necessitating a number of incisions. Nine days after the bath, tetanus symptoms set in; it was 24 hours before the antitoxin could be procured, and during this time he had nine convulsions. Dr. Davidson administered the antitoxin in 20 cm. doses every four hours for forty hours, during which there were seven convulsions. Some improvement at first was not sustained, and at the end of the forty hours the temperature had risen to 107.4 F., and a very severe convulsion occurred, which seemed likely to end life. Sixty cm. of antitoxin were given, and in one hour 40 cm. more were injected. In one hour the convulsion had ceased, the temperature had fallen to 100 and pulse was 90. Four hours later the last dose was given; there were no further convulsions, and recovery followed. Dr. Davidson thought the case indicated that larger doses were required, as much as 100 cm.

Effects of Diet-Cures in Diabetes Mellitus.

DRS. JULIUS FRIEDENWALD and JOHN RUHRÄH, Baltimore, spoke of (a) the milk cure, (b) the potato cure, and (c) the oatmeal cure. Their observations with the use of milk as a form of diet in diabetes are in accord with those of von Noorden and other recent writers. They have rarely found it advisable to place any of their patients on an exclusive milk diet, except in those severe cases of diabetes in which diacetic acid is present in the urine, and in which the patient is threatened with the onset of diabetic coma, or in which this condition had already set in. On the other hand, they have utilized from one-half to a liter of milk daily in many of their cases of diabetes, in addition to other allowable foods, often with excellent results. It is important, however, to observe the effect of this form of food lest untoward effects be produced and great injury be done the patient.

In their observations with the use of the potato cure in the treatment of diabetes they have never followed the Mosse plan, that is, by replacing all carbohydrates by potatoes, but have rather followed the method suggested by von Noorden, replacing a portion of the bread by this form of food. A patient who is permitted to consume 100 grams of bread a day can take 300 grams of potatoes, so that at least a certain proportion of the bread can be replaced by this form of food. If care be taken to regulate these proportions, they have never seen the slightest harmful effect produced by the use of potatoes even in severe forms of diabetes. In a not inconsiderable number of cases very beneficial results were obtained by them. Their results with the oatmeal diet have been very satisfactory. In mild forms of diabetes this treatment should never be utilized. The oatmeal cure has its place, however, only in the severe forms of diabetes. In these cases they have obtained remarkable results. In certain cases it is possible to rid the urine of sugar entirely when this is impossible on an entirely carbohydrate-free diet. In another class of cases the oatmeal diet not only occasions a disappearance of the sugar in the urine, but also the diacetic acid. The milk cure, potato cure, and the oatmeal cure are valuable aids in the treatment of diabetes. Great care, however, is necessary. Each case must be carefully studied individually to obtain the best results.

Empyema of the Frontal Sinus.

DR. RICHARD H. JOHNSTON'S patient was a man 30 years old, who had all the diseases incident to childhood. Since then he has been healthy until the beginning of his present illness. In January, 1904, he had what he took to be a mild case of "grip." He was weak and languid for two or three days. After this he convalesced rapidly and was soon able to attend to business. About two weeks later he was taken with a severe pain over the left eye. This pain was peculiar in that it recurred every other day at 12 o'clock noon or between the hours of 12 and 4 p. m. The duration of the pain was five or six hours. Occasionally the paroxysm would miss the alternate day, but was sure to come the third day. If the patient remained perfectly quiet on Sunday, the attack would be postponed until Monday, but if he took a walk or exercised in any way he was sure to suffer. The pain would begin in the left temporal region and gradually extend toward the middle line of the head, with the point of greatest intensity in the region of the supraorbital notch. At first sight, it would become more and more severe, until at the height of the paroxysm the patient would walk the floor in agony. It would then gradually subside and finally disappear, only to return two days later. On hearing his history, Dr. Johnston thought of a possible sinus disease. The only symptoms that could be elicited were dryness of the mucous membrane in the left nostril, and tenderness on pressure over the left eye. Empyema of the frontal sinus was diagnosed from the following points: 1. Dryness of the mucous membrane. 2. The periodicity of the pain, which is quite often seen in frontal sinus disease. 3. The fact that the pain undoubtedly followed an acute, infectious disease. 4. The tenderness on pressure of the affected as contrasted with the sound side. The cardinal symptom of accessory cavity disease, the presence of pus in the nasal fossa, was not present, although the nose was examined carefully several times. Disease of the frontal sinus had never been suggested to the patient. He at first declined operation, but later submitted to it. The frontal sinus was opened and pus and a degeneration mucous membrane was found. This was carefully curetted out and the walls examined for necrosis of bone. The headaches ceased and have not returned. The case must be classed as one of closed empyema of the frontal sinus. Such cases are very rare. The fact that there was never pus in the nose and the positive declaration of the patient that he had never had a discharge of pus into the nose or into the postnasal space rendered the diagnosis difficult. The case was presented as an illustration of intermittent, periodic headache, periodic headache which could not possibly have been cured without an operation.

Causes Contributing to Success in Cataract Extraction.

DR. SAMUEL THEOBALD, Baltimore, said that fifty years ago, when "flap extraction" was in use, the most skillful operators were well content if their failures did not exceed 12 per cent. During the two decades following the introduction of von Graefe's modified linear extraction, 8 to 10 per cent. of failures were not uncommon. Now the operator whose failures exceed 4 or 5 per cent. has little ground for self-congratulation. In a compilation of nearly 2,000 cataract extractions by well-known ophthalmic surgeons of this country and Europe, made by Dr. Frank M. Ring, in 1895, the percentage of failures was 3.67. In 192 consecutive cataract extractions performed by Dr. Theobald, including 100 reported in the *American Journal of Ophthalmology*, in December, 1899, there was a percentage of failures of but 3.12. Among the causes which have most to do with this markedly better showing are (1) the modification in the operation of cataract extraction introduced by von Graefe, (2) the discovery of local anesthesia, (3) the application of the principles of antiseptic surgery to eye operations, (4) the skilled nursing now at command, (5) the improved hospital facilities, (6) the provision against postoperation accidents afforded by such contrivances as the protection shield of the late Dr. Russell Mendoch, and (7) the more definite specialization of eye surgery. Still better results might be obtained could we guard absolutely against infection—which, in spite of careful antiseptic precautions, occurs about twice in one hundred operations—and were our patients, usually well advanced in life, in sound health, were their eyes free from complicating diseases, and were they always as tractable as the operator could wish. The intractable patient sorely taxes the patience and skill of the most expert operator.

Improved Chemical Methods in the Clinical Laboratory.

DR. EDWARD L. WHITNEY, Baltimore, offered the following conclusions: In the use of the physical chemistry methods in pathology, we have obtained the following information of value: 1. Cardiac insufficiency can be differentiated from renal, and when existing together, both can be detected and determined. 2. The lowering of the freezing point in heart disease gives an indication for the use of oxygen by which the freezing point or osmotic tension can be restored to the normal, the cardiac activity increased, and a well-marked diuresis produced. 3. In unilateral kidney disease the freezing point of the blood furnishes information regarding the condition of the other kidney, when taken in conjunction with the symptoms, and if attention is paid to the food and time of feeding. 4. The amount of work or exercise which can be borne by an individual suffering with heart disease, and the effect of heart tonics can be fairly well estimated by a determination of the freezing point and NaCl of the urine under proper conditions, the quotient (freezing point divided by NaCl being between 1.23 and 1.69. 5. Provided a normal diet with the normal amount of fluid is given, a fall in the freezing point below 0.90 degrees, with a low valence number, indicates disturbance of the renal function. 6. In the regulation of the diet in nephritis care should be taken to give foods yielding as small a number of molecules for kidney elimination as possible. 7. With certain reserve we may be able to determine, with a reasonable degree of accuracy, the relative proportion of interstitial and parenchymatous changes by the manner in which water is eliminated and its effects on the freezing point.

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns.]

Atony of Rectum and Anal Sphincters.

The first consideration in the treatment of rectal atony, according to W. Bodenhamer in *N. Y. Med. Jour.*, is to establish a regular habit regarding a daily evacuation of the rectum. This may be aided, if necessary, by an injection of from a half to one pint of cold water at the ordinary temperature at the regular time of going to stool. Cold acts as a tonic, stimulant and astringent by exciting the sensibility and contractility of the rectum, and this procedure should be discontinued as soon as its purpose has been attained. In the more obstinate cases, the chief remedy, according to the author, is nux vomica, which may be administered alone or combined with some other drug and along with this treatment the rectal enemas containing strong astringents and tonic substances should be employed with the view of producing contraction and condensation of the relaxed muscle fibers of the rectum and making them shorter and firmer. Drastic purgatives should not be employed. Aperients are indicated, however, especially when atony of the colon is present, along with the rectal trouble. The use of aperients should be restricted to the smallest dose which will arouse normal peristaltic action and continued until a daily habit of evacuation is established. The astringent injections should not exceed in quantity five or six ounces, and before administering them the rectum should be emptied of fecal contents. The astringent enema should be given once daily, and should be retained for a few minutes if possible. The author, in some cases, has used a decoction of

galls or a strong decoction of white oak bark and alum. The following is also recommended by him:

℞ Acidi tannici .....gr. xxx 2
Vini rubri .....℥iv 120

M. Sig.: To be used as an injection and repeated once daily.

In cases of rectal constipation complicated with anal fissure he recommends the following as used by M. Bretonnean:

℞ Ext. rhatany .....℥ii 8
Alcoholis
Aquæ destil., āā.....℥v 20

M. Sig.: To be used as an enema, in five or six ounces of water, and repeated once daily. For children, one-fourth this quantity should be used.

In some cases, the following pill is recommended when atony of the cecum exists with that of the rectum in order to soften the hard fecal matter and to excite peristalsis:

℞ Ext. aloes .....gr. xxx 2
Ext. nucis vom. .....gr. xx 1|30
Ext. hyoscyami .....gr. xv 1
Ferri sulph. .....gr. x |65
Olei caryophylli .....m. v |30

M. Ft. pil. No. xxx. Sig.: One pill daily at dinner or at bedtime.

Extract of nux vomica may be given once daily with advantage in the form of a pill, grain one-half to one (.03-.06). Inspissated ox gall is also of service in some cases. In those cases in which the rectum or rectal pouch is firmly distended by hard fecal masses, which neither purgatives nor injections will soften, mechanical means must be resorted to, by first dilating the anal sphincter, under an anesthetic if necessary; the finger and rectal curette should be used to remove these impacted masses as much as possible, and the remainder should be washed out by the astringent injections. A proper diet, claret, and active exercise in the open air, on foot, horseback or bicycle should be advised.

ATONY OF THE ANAL SPHINCTERS.

The anal sphincters are much less frequently affected than the rectum; however, both may be involved. When the sphincters are affected, the disease is much more readily detected, being external. The sphincters of the anus are more frequently affected in old age, and paralysis is then present and becomes so troublesome that it prevents exercise on foot. In such cases, the patient should evacuate his bowels at bedtime; if emptied in the morning, irritation is produced and kept up during the entire day. In hypochondriacs and in hysterical women, atony of the anal sphincters is frequently present. It may also be brought on by protracted ill health, sedentary habits, immoderate use of alcohol and tobacco or repeated dilatation of the anus by straining at evacuation in cases of chronic dysentery. In the treatment of this condition, the cold water ascending douche is a most valuable remedy in restoring lost tone to the muscles, by applying it to the anus for four or five minutes immediately after evacuation of the bowels and once or twice extra during the day. The following local application is recommended by the author as being of great service in such cases:

℞ Strych. sulph. .....gr. x |65
Ung. aquæ rosæ .....℥i 30

M. Sig.: A small amount to be applied locally once or twice daily.

Or as a lotion the following:

℞ Ext. nucis vomicæ .....gr. viii |50
Alcoholis .....℥ii 60
Aquæ ammoniæ .....℥i 4

M. Ft. lotio. Sig.: To be applied locally to the affected parts once or twice daily.

Caffein Administered Hypodermically.

Caffein is recommended in the treatment of diabetes, according to *Amer. Med.*, to overcome fatigue, as it acts as a general tonic to the heart and kidneys. It is also of service in grave pneumonia of old people and in cases of adynamia. The following formulæ, after Huchard, are recommended as the best combinations given hypodermically:

℞ Sodii benzoatis .....gr. xlv 3
Caffeinæ .....gr. xxx 2
Aquæ destil .....℥iss 6

M. Dissolve with heat. Sig.: Ten drops hypodermically four or five times a day; or a stronger solution as follows:

℞ Sodii salicylatis .....gr. xlv 3
Caffeinæ .....℥i 4
Aquæ .....℥iss 6

M. Dissolve by heat. Sig.: Ten drops hypodermically three or four times daily.

Acne.

The following combinations are recommended by *Bull. Gen. de Ther.* in the treatment of acne of the face:

℞ Sulphuris precip. .....℥vi 24
Glycerini .....℥v 20

M. et adde:
Spts. camphoræ .....℥i 30

M. Sig.: Apply with a brush to the face at night; or:

℞ Pulv. cretæ .....gr. xv 1
Sulphuris precip. .....gr. lxxv 5
Tinct. saponis viridis
Liq. petrolati, āā.....℥i 4

M. Ft. unguentum. Sig.: Apply to the face and allow it to remain for from ten to fifteen minutes, remove by washing and dust the face with pulverized amylum.

Treatment of Pneumonias.

The present treatment of pneumonia, according to L. Litchfield in *St. Louis Med. Review*, is symptomatic, with the promise of an antitoxin some time in the future. It is the author's belief, however, as against those less optimistic, that much can be done in the way of lessening the mortality by judiciously treating the symptoms as they arise. The patient should have an abundance of fresh air, without draughts, excluding all unnecessary persons from the room. He should not be weighted down with a needless amount of bedclothing, and it is best to clothe him in light woolen pajamas which unbutton in front. At the beginning of the disease the digestive tract should be thoroughly emptied by a calomel or saline purge or both. Water should be given freely, and in the delirious or unruly it should be forced, if necessary, and administered by high saline enemata or by hypodermoclysis. For the pain, if severe, codein or morphin and atropin may be used sparingly hypodermically. If the blood pressure is high with hard, full, bounding pulse, the patient may be bled or veratrum or aconite, with active catharsis and ice bags to the head and chest, may serve the same purpose. Delirious patients should be constantly watched to guard against accident. During the initial stage, especially, nourishment should be given sparingly, and, of course, should be simple and easily digested, as fermentation is liable to occur, and is a serious complication.

Elimination by the bowels and kidneys must be carefully watched. The temperature should be reduced by sponging and packs. The heart is the important organ to watch, as bruits may appear, both mitral and pulmonic, without special significance; the important thing is to note whether or not the second pulmonic sound is exaggerated, as it is a sign that the right heart is being taxed, and that strychnin is indicated. If the pulse becomes weak, irregular or intermittent, digitalis is indicated.

Alcohol is recommended by the author in the form of old whiskey or brandy, as it steadies the nervous system, stimulates the digestive system, regulates the distribution of blood and takes the place of fats and carbohydrates and can be given in large quantities without signs of intoxication. The author recommends it when the pulse approaches 120, and in sufficient quantities to keep the pulse at or below that point.

[Some authors claim that there is a definite physiologic antagonism between strychnin and alcohol. See abstract in THE JOURNAL, Dec. 17, 1904, p. 1846.—ED.]

If cyanosis appears, oxygen is indicated by inhalation, well mixed with air, for if used too concentrated, it is capable of irritating the pulmonary and bronchial tissues. Dyspnea and cyanosis are frequently cleared up under its use. If collapse threatens, hot mustard bath or hot pack, with free use of stimulants hypodermically, should be employed, and the conditions should be watched from hour to hour or minute to minute to note improvement.

For general nervousness, hot baths and hot packs are of value and poultices may sometimes be resorted to. The air

may be moistened with steam charged with benzoin or eucalyptol to add to the comfort of the patient when there is dryness of the respiratory tract.

After the crisis has passed or when the temperature has dropped in cases of delayed resolution and the patient's desire for food increases, a full nutritious diet, consisting of eggs, chops, steaks, etc., may be given as long as the pulse is good and there are no signs of pulmonary edema.

Acute and Chronic Gastric Catarrh in Infants.

Robert Hutchison of London recommends in the treatment of acute gastric catarrh that the child be put to bed and all foods withheld until vomiting has disappeared, but during this time sips of iced water may be given in order to relieve the great thirst which is often present. If there is much vomiting there is no occasion for washing out the stomach, but in cases in which nausea alone is present lavage is indicated. The most useful drugs are calomel and bismuth. The treatment should be commenced by giving repeated doses of calomel, grain one-sixth to one-fourth (.01-.015) every two or three hours until two grains have been taken and this should be followed by bismuth in large doses, when the attack will rapidly subside.

CHRONIC DYSPEPSIA.

In the treatment of chronic dyspepsia the main line is dietetic and he gives the following directions for diet:

No food must be taken between the regular meals.

No sugars or sweets of any sort are to be eaten.

The child must not eat new bread, potatoes, peas or beans, turnips or carrots, pickles, pastry, jam, syrup or treacle, or cakes. The diet should consist of stale bread or dry toast, with butter or dripping, bacon, eggs, fish, meat, milk, plain milk pudding (except cornflour, arrowroot or sago) and green vegetables in small quantity; the carbohydrates are thus limited.

Medicolegal

Delusions—Privilege—Hypothetical Questions.—The Supreme Court of California holds, in People vs. Griffith, where the defendant was charged with the crime of assault with intent to commit murder, that an instruction to the effect that, when partial insanity or insane delusion or hallucination is relied on, it must be made to appear that the crime charged was the product or offspring of such insanity, insane delusions, or hallucinations, and not the result of some sane reasoning and natural motives. It also holds that the rule as to privileged communications between a party and his physician does not apply in a criminal case. And it says that in every case where a hypothetical question is asked, based on the evidence, it is not to be presumed that the jury is so stupid as not to understand that it is addressed to the supposed acts, facts, and conditions of the defendant in the case; and the answer which the witness gives to such hypothetical question must have its weight with the jury as bearing on the defendant's individual case, or else the jury, through their ignorance and density, would be unfit to sit in any cause.

May Testify as to Wounds Observed on Prisoner.—The Court of Errors and Appeals of New Jersey holds, in State vs. Miller, a homicide case, that it was not erroneous to permit the physician of a jail, in which the accused was confined, to testify to wounds observed by him on the backs of the hands of the accused, although he also testified that he had the accused removed to a room in another part of the jail and divested of his clothing. It says that the observation made by the witness of the wounds on the hands, and testified to by him, was in no sense a compelling of the accused to be a witness against himself. Nor does the court desire to be understood as conceding that if the physician had rendered himself liable to an action for damages for illegally removing the clothing of a prisoner, and thereby enabling him to observe a wound on the person which had been concealed, the testimony of his observation would have been inadmissible. It says that if the wound were on the face or hand, or a part of his person exposed to common view, it would be absurd to say that testimony of what the wound presented to common observation was compelling a person, on whom the wound was, to be a witness against himself. And it thinks it equally absurd to say that the testimony of the observation of a wound in any part of the body, although obtained by a forcible removal of what concealed it, is to be rejected as produced by compelling a person to be a witness against himself. But the court says that there are cases which carry the protection of the accused under such constitutional restrictions to an extent which seems unwarranted.

Privileged Communications and Evidence of Condition.—The Supreme Court of Indiana says that, in the case of Haughton vs. Ætna Life Insurance Co., a physician testified over the plaintiff's objection that the insured in this case personally employed him, and that he advised professionally with said insured during three months named. Section 505, Burns' Annotated Statutes of 1901, prohibits physicians from testifying to "matter communicated to them, as such, by patients, in the course of their professional business, or advice given in such cases." Competency to testify is the rule, and incompetency is the exception. No person will be excluded from testifying, and no testimony will be rejected, unless within the inhibition of the statute. The statute in no manner attempts to prohibit a physician from testifying to the fact of his employment, and the rendition of professional service to a patient. Such facts are not secret and confidential, but may be, and usually are, known by other persons. The statute only forbids the physician from making public matter concerning his patient communicated to or learned by him, as such, through his professional relation. This rule was not violated in the testimony given by the physician referred to, and there was no error in overruling the plaintiff's objection to this evidence. Briesenmeister vs. Knights of Pythias, 81 Mich. 525; Brown vs. Metropolitan Life Ins. Co., 65 Mich. 306; Nelson vs. Nederland Life Ins. Co., 110 Iowa, 600; Patten vs. United States L. and A. Association, 133 N. Y. 450; Sovereign Camp of Woodmen vs. Grandon (Neb.), 89 N. W. 448; Price vs. Standard Life, etc., Co. (Minn.), 95 N. W. Rep. 1118.

Again, the court says that the material point in controversy in this case was the physical condition of the insured at the time he made and signed the statements contained in the application for insurance, and his own knowledge of the same. As tending to show such facts, evidence of his physical condition shortly before and immediately after the time in question was competent. The statements in question were made by the insured in explanation of contemporary facts—to an intimate friend, while he was in bed, as explanatory of that fact; to the county superintendent, in explanation of the dismissal of his school; to a third party, in explanation of his appearance, walk, and the smell of iodoform about his person. These declarations, made in connection with the manifestly impaired condition of his health at the time, and explanatory thereof, were admissible, under the issues of the case, as tending to show knowledge of his physical condition at the time of making the alleged false and fraudulent statements. Swift vs. Massachusetts Mut. Life Ins. Co., 63 N. Y. 186; Kelsey vs. Universal Life Ins. Co., 35 Conn. 225; Averson vs. Kinnaird, 6 East, 188; Stauffer vs. Young, 39 Pa. 455.

Powers of Health Officer—Employment of Physician.—Section 1412 of the Revised Statutes of Wisconsin of 1898 makes it the duty of every health officer, "on the appearance of any dangerous contagious disease in the territory within the jurisdiction of the board of which he is a member, to immediately investigate all the circumstances attendant on the appearance of such disease, make a full report to such board and also to the State Board of Health; and it shall likewise be his duty at all times promptly to take such measures for the prevention, suppression and control of any such disease as may in his judgment be needful and proper, subject to the approval of the board of which he is a member." The Supreme Court of Wisconsin says, Collier vs. Town of Scott, that, under this statute, the power conferred on the health officer is to "investigate all the circumstances attendant on the appearance of such disease, make a full report to such board and also to the State Board of Health." No authority is vested in the health officer to take measures for the prevention, suppression, and control of disease except subject to the approval of the board

of health, and it is clear that the power to investigate and report does not embrace the power to take measures for the suppression and control of disease, vested in the board of health as a board. The statute does not appear to give the health officer any discretionary power concerning the prevention, suppression, and control of the disease, but simply imposes on him the duty of investigating the circumstances attendant on the appearance of the disease, and making report. Whether the health officer could in any case bind the town by the employment of a physician to aid him in such investigation, the court does not now decide. The board, it says, is authorized to take such measures as may be deemed necessary for the prevention, suppression, and control of the disease, and this involves the exercise of discretion, which the statute wisely vests in the board, and which was not intended to be given to the health officer for obvious reasons. The power to charge a town with the expenses of a physician in the prevention, suppression, and control of a dangerous and contagious disease, if it exists in any case, is vested in the board of health, and not in the health officer without the approval of the board, and the physician employed is bound to know at his peril that the action of the health officer in that regard is subject to the approval of the board. A health officer has no power to employ a physician to treat smallpox patients and furnish them with medicine. Again, it was contended in this case that the failure to secure the approval of the board of health does not relieve the town from liability, where the health officer takes such measures as in his judgment are necessary to prevent the spread of disease. But the court does not so understand the statute. It says that the power to investigate and report is given to the health officer without limitation, but the power to take measures for the prevention, suppression, and control of the disease is vested in the board, and can not be exercised by the health officer without approval of the board. Whether this legislation is wise or otherwise, and whether more extensive powers should be given to health officers, are not questions for the courts. Furthermore, under the statutes of Wisconsin, Section 1416 of which provides that the charge shall be against the person so taken care of, or against any other person who may be liable for his support, the court says that it is at least very doubtful whether the board of health has any power to charge a town with the expenses of medical services and medicine furnished to a person infected with smallpox, especially when such person is not a pauper, but well to do, and amply able to pay for such services and medicine.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

May 13.

1 *Surgical Intervention in Cases of General Peritonitis from Typhoid Fever and Acute Gonococcus Infection. J. Price, Philadelphia.
2 *Diphtheria Antitoxin in Cerebrospinal Meningitis. A. J. Wolff, Hartford, Conn.
3 *Gallstone Obstruction of the Bowel; Report of a Case; Removal of One Stone from the Bowel and a Second from the Gall Bladder; Recovery. A. C. Wood, Philadelphia.
4 The Alleged Destruction of Red Blood Corpuscles in the Spleen. E. T. Williams, Boston, Mass.
5 Pancreatic Cyst; Report of a Case. M. J. Karpeles, Philadelphia.
6 *McGraw Elastic Ligature for Gastroenterostomy Secondary to Murphy Button: Operation with Description of Technic. R. J. Christie, Quincy, Ill.
7 *Gunshot Wounds and Their Treatments. J. R. Cook, Fairmount, W. Va.

1. **Surgical Intervention in Typhoid and Gonococcus.**—Price states that typhoid and other perforations are always followed by peritonitis, local or general. The possibility of its remaining local or circumscribed by adhesions should not be considered if the diagnosis of perforation has been made. In more than 75 per cent. of the cases recorded, general septic peritonitis has been found with escaping bowel contents, gas and feces, foul pus, and free exudate in considerable quantity. The perforations are quickly and easily found near the ileocecal valve and are rarely multiple or ragged. Whether of large or small caliber, fine pure silk is the safest suture material; the lumen of the bowel can be safely reduced to one-half. The interrupted suture gives the best result and less risk of strangulation. If the margins of the ulcer are ragged they should be trimmed. A resection is an unjustifiable and dangerous procedure; simply anchor the ragged ulcer and disorganized bowel with catgut sutures on the opening between drains, forming an artificial anus or fecal fistula, which is a much safer procedure and is commonly followed by spontaneous closure. If this result does not follow, the fistula can be easily remedied after convalescence. The irrigation or wash toilet, so long practiced, has unquestionably given the best results. It should be a thorough cleansing with sterilized water of the entire surface, both visceral and parietal peritoneum. Price believes irrigation with hot normal salt solution is harmful by irritation. Curetting or wiping dirty points with gauze is followed by good results. The gauze pack, so commonly and recklessly used, is a dangerous procedure, favoring too many acute and chronic obstructions by pressure. Unless the operator understands how to place gauze drains or coffer dams in and about filthy surfaces, he would better fill the peritoneal cavity with hot salt solution and close.

2. **Diphtheria Antitoxin in Cerebrospinal Meningitis.**—Wolff asserts that when the gross lesions of the disease have made extensive onslaughts on the vital centers a cure can not be effected. To be effective, the antitoxin must be used early in the course of the disease and in large amounts.

3. **Gallstone Obstruction of the Bowel.**—Wood reports the case of a woman, aged 58, operated on for intestinal obstruction, due to a gallstone in the ileum, six inches above the valve. The stone weighed 11.6 gms. and measured 9.3 cm. by 8 cm. in circumference. A second stone, weighing 9 gms., was removed from the gall bladder. Brief notes of 21 additional cases, collected from the literature of the past five years, are appended. Of these 22 cases, 12 patients recovered and 10 died; mortality, 47 per cent. But two of the number were men. The ages ranged from 31 to 73. The average age of the women was 59.85 years. One-half of all the cases occurred in the sixth decade. The site of the obstruction was: Duodenum, 1; duodenojejunal junction, 1; jejunum, 2; "small intestine" (probably ileum), 1; ileum, 11 (probably 15); ileocecal valve, 1; colon, 1; not stated (probably ileum), 3. In one case the stone was in a mass of adhesions in the gall-bladder region and caused obstruction by setting up a local peritonitis.

6. **McGraw Elastic Ligature for Gastroenterostomy Secondary to Murphy Button.**—Christie reviews the development of gastroenterostomy, gives credit to American surgeons for its present state of perfection, relates the pathogenic conditions which may be relieved by the operation, classifies cases which are best done with the Murphy button, describes the technic of the elastic ligature operation as a secondary procedure, and gives the history of a case.

7. **Treatment of Gunshot Wounds.**—Cook says that if the Roentgen rays are not available to aid in locating the bullet, in wounds of the leg, arm or body, the best method is to wash out the tract and to await developments. He especially emphasizes the importance of drainage in all operations for gunshot wounds.

Medical Record, New York.

May 13.

8 *Tuberculosis Situation in Penal Institutions, with Especial Reference to the State Prisons at Sing Sing, N. Y., and Columbus, Ohio. S. A. Knopf, New York.
9 *Dermatitis Seborrhoica and Its Relations to Alopecia and Other Conditions. L. D. Bulkley, New York.
10 Prostatectomy. R. Harrison, London.
11 Importance of Early Recognition of Suppurative Ear Disease. A. G. Bryant, New York.
12 *Treatment of Epidemic Cerebrospinal Meningitis with Injections (Chiefly Intraspinous) of Diphtheria Antitoxin. G. L. Peabody, New York.
13 *Case of Long-Standing Major Hysteria Characterized by a Paroxysmal and Fixed Pain, Mental Depression, Confusion, Delirium with Delusions, and Hallucinations Terminating in Sudden Recovery. T. Diller, Pittsburg.
14 *Case of Menstrual Urticaria. D. J. M. Miller, Philadelphia.

8. **Tuberculosis Situation in Penal Institutions.**—Knopf, after a visit of inspection of the state prisons at Sing Sing

and Columbus, makes the following suggestions: All prisoners detained in jails should be subjected to careful medical examination, and all tuberculous individuals should be isolated. Having arrived at the penal institution, tuberculous prisoners should be assigned to the sort of labor best suited to their condition, and the temperature of the work rooms should be carefully regulated to prevent overheating, while proper dust consumers should also be installed. All prisoners should receive periodical medical examinations. Rules against expectoration should be strictly enforced, and the use of stationary and pocket cuspidors is advised, suitable types being illustrated. Tuberculous prisoners should always have separate cells, and all inmates should have a chance to exercise in the open air several times a day. Whenever possible those predisposed to tuberculosis and those in the earlier stages of the disease should be assigned to agricultural work. The more advanced cases should be treated in special wards and should be required to wear mouth masks to prevent infection. The indiscriminate pardoning of far-advanced cases is to be deprecated, as their families are often too poor to provide for them and they easily become sources of infection to others. Prisons should be constructed so that there is plenty of light, air and ventilation on soil that is dry and porous. These conditions do not exist in Sing Sing prison, which is notoriously damp, and the author suggests some temporary improvements, including the substitution of paint for whitewash on the cell walls, which would make it more sanitary, until an institution can be erected in a more suitable situation. The cells of the Ohio prison are, if anything, worse than those at Sing Sing, and the conditions existing in the work shops, particularly in the tobacco rooms, are highly insanitary.

9. **Relations of Dermatitis Seborrhoica to Alopecia.**—Bulkley says that this is an eruption that forms about one-tenth of the cases which come to the dermatologist. Both sexes are affected in about equal proportions, and, though observed at all ages, from 1 year to 89 years, it is mainly a disease of middle life, almost 53 per cent. of the cases occurring between the ages of 20 and 40. Combining the statistics of alopecia and dermatitis seborrhoica, it appears that in 557 out of 880 cases, or 63 per cent., the loss of hair was due to the latter condition. Dermatitis seborrhoica in all its forms is more or less contagious, and its development is undoubtedly favored by the various elements which lower the vitality and render the skin more susceptible to operation of such local agencies. The differential diagnoses from psoriasis, ringworm, pityriasis rosea, syphilis and eczema is discussed. Bulkley's treatment consists mainly in the application of various combinations of resorcin, sulphur, salicylic acid, carbolic acid, formalin, etc. In this connection he says that proper local treatment is all essential, but for the best results a certain amount of reconstructive treatment is necessary.

12. **Treatment of Epidemic Cerebrospinal Meningitis with Diphtheria Antitoxin.**—Peabody gives the results obtained in 22 cases of the disease treated in this way by himself and Jacobi in the Roosevelt Hospital. In all but one the diagnosis was proved by finding the meningococcus in the spinal fluid. Of the 22 patients, 4 received the antitoxin subcutaneously, 7 received it at different times both subcutaneously and intraspinously, and 11 received it only intraspinously. In only one case did it seem to cause any unpleasant effect. The mortality of the 22 cases, while still uncertain, will go well beyond 50 per cent., and the percentage of recoveries to date is a little over 9. There does not seem to have been any influence for either good or evil ascribable to the antitoxin treatment.

13. **Major Hysteria.**—Diller reports the case of a married woman of 35, who for over two and a half years presented a picture of serious illness, of which uterine hemorrhage, severe autointoxication, mental depression, delirium, elevation of temperature, dyspnea and a great local tenderness and pain in the left lower abdominal and inguinal regions were different phases. No organic basis for the clinical condition could be detected, and one day, during a consultation, it was suggested that an exploratory incision be made through the tender abdominal muscle. From that day the patient began to improve, and three weeks later she was discharged, apparently in the best of physical and mental health.

14. **Menstrual Urticaria.**—Miller epitomizes the literature of this condition and describes its occurrence in a girl of fifteen, who menstruates regularly and whose attacks of urticaria make their appearance seven or eight days before and cease two to three days before each period. Occasionally the urticaria persists until the flow begins, rarely during the first day or two of its course. During the intervals between the periods the patient is quite free from attacks and she is perfectly healthy in other respects. The urticaria is of the ordinary type.

Medical News, New York.

May 13.

15 *Physiology the Basis of Clinical Medicine. Suggestions as to Courses in Applied Physiology. J. M. Taylor, Philadelphia.
16 *Hypodermatic Use of Adrenalin Chlorid in the Treatment of Asthmatic Attacks. D. M. Kaplan, New York.
17 Principles Governing the Technic of Roentgen Ray Therapy. E. G. Williams, Richmond, Va.
18 *Common Causes of Gynecologic Disease, with Some Remarks on Prophylaxis. G. G. Ward, New York.
19 *Remarks on Treatment of Fulminating Appendicitis. J. M. Inge, Denton, Texas.
20 *Gonorrheal Arthritis. H. W. Frauenthal, New York.
21 Case of Sudden Death in a Newly Born Infant Due to Suprarenal Apoplexy. R. E. Pick, New York.

15. **Course in Applied Physiology.**—Taylor discusses the value of possessing a thorough knowledge of practical physiology, and points out the deplorable lack of such knowledge by many in the profession. In this connection, he asks whether the teaching in our medical schools is such that all who graduate have secured opportunities to learn the most important principles by which clear reasoning can be consistently achieved. If not, wherein is the chief deficiency? Appended to the article are letters, or quotations from letters, pertinent to the subject under discussion written by prominent teachers of physiology in all parts of the country. They are unanimous in advocating the more extended teaching of applied physiology.

16. **Adrenalin in Asthma.**—Kaplan reports on the use of adrenalin in the Montefiore Hospital for checking the attacks of asthma, and reports several cases. He says that it is safe to say that the contraindications to the use of adrenalin are generally overstated. Although relieving the paroxysms with greater promptness and certainty than most of the other drugs at our command, the hypodermic use of adrenalin chlorid is in no sense curative of the disease as such, and equally useless are prophylactic injections.

18. **Causes of Gynecologic Disease.**—Ward is of the opinion that a large proportion of these diseases are preventable, and that if the causes and etiologic factors were given more prominence in the teaching of gynecology, the physician would be influenced to avoid these pitfalls, and thus save many a woman from an operation or from chronic invalidism. Prophylaxis means prevention, and in order intelligently to prevent the occurrence of any disease, it is important that we understand the cause. Prophylaxis in gynecology is largely dependent on the proper conduct of a labor or an abortion. Disregard of the importance of antepartum examination, and the cultivation of diagnosis by abdominal palpation, thus reducing the amount of vaginal manipulation during labor; the too ready resort to the forceps and their unskillful use, especially in regard to their application through an undilated cervix, the lack of inquiry as to whether the uterus has involuted properly during the puerperium, the neglect immediately to repair injuries to the pelvic floor, the failure to recognize the importance of gonorrhea in its earlier manifestations, and the popular methods of treating abortion, are all common factors that go to make gynecology a specialty.

19. **Fulminating Appendicitis.**—Inge's paper is largely a discussion of the methods of treatment advocated by Ochsner and Morris, with a report of two cases.

20. **Gonorrheal Arthritis.**—The subject is discussed in general by Frauenthal. Incidentally, he remarks that if the same zeal be displayed in seeking for gonococci as a cause of arthritis as there is for looking for uric acid and urates, possibly more cases of gonorrheal arthritis will be found.

New York Medical Journal.

May 13.

22 *Influence of Cobra Venom on the Proteid Metabolism. J. Scott, Edinburgh.
23 Principles of Manual Therapy. Its Application by the Physician. J. P. Arnold, Philadelphia.
24 *Urethroplastic Dislocation. C. Beck, New York.
25 *Skiagraphy of the Future. J. Rudis-Jicinsky, Cedar Rapids, Iowa.
26 When and How Should the Tuberculous Patient Be Treated? F. M. Pottenger, Monrovia, Ga.
27 Addition of Calcium Salts to Nutrient Broth. A Reliable and Convenient Method for Growing the Pneumococcus, Meningococcus and Certain Other Bacteria. C. Bolduan, New York.
28 Case of Digitalis Poisoning with Very Low Temperature Without Collapse—Recovery. W. N. Johnson, Philadelphia.
29 Immediate Abdominal Section. D. Lewis, Chicago. (Continued.)

22. **Influence of Cobra Venom.**—An extended series of observations has been carried on by Scott with reference to the effect of cobra venom on proteid metabolism. Dogs were used for this investigation. When the animal came into nitrogenous equilibrium, sublethal, and in some cases lethal, doses of cobra venom were injected subcutaneously. Scott found that practically no change in the rate of proteid metabolism was induced by the injection, in spite of well-marked local reaction. A slight decrease in the proportion of urea nitrogen, quite insignificant compared with that produced by diphtheria toxin and various drugs, was observed. A sight rise in the proportion of ammonia nitrogen occurred. There was a slight rise in the proportion of nitrogen purin bodies. The nitrogen in other compounds showed no constant change. The P_2O_5 excreted showed no constant change, but in two experiments there was a slight rise. The change produced in the proteid metabolism is, therefore, small, and as such is the case, being in the directions of decreased elaboration of urea and increase in the proportion of nitrogen excreted as ammonia, it seems to indicate a slight toxic action on the hepatic metabolism rather than a general action on the proteid changes; and tends to confirm the view that the poison acts chiefly on the nervous system.

24. **Urethroplastic Dislocation.**—The procedure described by Beck, known as urethroplastic dislocation, is carried out as follows: After the patient is brought into the lithotomy position, a medium-sized metal catheter is introduced and is gently pressed against the entrance of the strictured area. If firmly held by an assistant, it will serve as a landmark. The indurated area is now exposed by a three-inch incision made in the raphe. The tissues are divided step by step until the urethra is reached. The sclerotic area generally extends into the neighboring perineal muscles. After its length is ascertained, the urethra is grasped with toothed forceps, raised and carefully freed from the surrounding tissues. After isolation is perfect, and not until then, the indurated portion is exsected at its central as well as it peripheral ends. The urethral stumps are now caught with silk ligatures so that they can be pulled forward and further mobilized until they can be placed in apposition. If mobilization of the central end offers any technical difficulties, a large catheter is introduced and serves as a handle during dissection. After the mucous membranes of both urethral ends are united with the fine catgut sutures, a large rubber catheter, provided with a shield, is introduced and fastened at the top of the glans. A row of periurethral sutures is then added, and the skin wound is closed with interrupted silk sutures. No wound drainage is used.

25. **Skiagraphy.**—This paper is essentially a description of improved technic. The apparatus described is the author's protector, a home-made combination of a protective screen and shield, mask, and a lead box, with diaphragm and a metal cylinder and specula for precluding the diffused x-rays. The device may be used with great advantage in therapeutic work, in diagnosis, in fluoroscopic examination and in skiagraphy, giving most excellent results not obtainable without it. During the whole exposure of a patient the tube may be observed in action anteriorly and posteriorly, without disturbing the patient. In this way the patient and operator are protected in prolonged exposures. A burn is not possible. Any tube of a good make works with this attachment more steadily, the spreading of the rays when the tube becomes high in vacuum is avoided, and so-called concentration becomes possible, giving the illumination of the part exposed only. The illumination can be regulated at will. The whole arrangement and accessories to the protector weigh only about one pound and one ounce, and are easily portable with the tube, and in the same compartment, or the same box without other attachment.

Boston Medical and Surgical Journal.

May 11.

30 Infections of the Respiratory Tract with Influenza Bacilli and Other Organisms; Their Clinical and Pathologic Similarity and Confusion with Tuberculosis. F. T. Lord, Boston.
31 *Perforated Duodenal and Gastric Ulcers; a Report of Two Cases; Operation; Recovery. C. L. Scudder, Boston.
32 *Suggestions in Regard to the Diagnosis of Seminal Vesiculitis. H. Cabot, Boston.
33 Report of a Case of Exstrophy of the Bladder, with a Consideration of Operative Treatment. H. G. Spooner, New York.

31. **Perforated Duodenal and Gastric Ulcers.**—Scudder records two cases of ulcer of the gastrointestinal canal. One case was an ulcer of the stomach. The other case was an ulcer of the duodenum. Both ulcers perforated, causing acute peritonitis. The first patient was operated on four hours after the initial sign of perforation. The second patient was operated on forty-eight hours after perforation. It was thought previous to operation that the patient had an appendicitis and a general peritonitis. Both the ulcers were closed by sutures. The peritoneal cavity in each instance was quickly cleansed by salt flushing and wiping. Cigarette and tube drains were used for a few days only in each case. Both patients recovered. In each case at a subsequent time a posterior gastrojejunostomy was done. The anastomosis was made close to the ligament of Treitz. Both patients recovered from the second operation, and are well to-day.

32. **Diagnosis of Seminal Vesiculitis.**—The technic adopted by Cabot for the purpose of demonstrating the presence or absence of pus in any noticeable amount in the cavity of the vesicle is as follows: Patients are instructed to come with a full bladder, and this is first emptied, in order to obtain a general idea of the amount of pus in the urethra. The urethra is then irrigated with boric acid solution, and 4 or 5 oz. allowed to run back into the bladder, which is then emptied. In this way the urethra is rendered as clean as possible. The bladder is then again distended with boric acid or salt solution, and the prostate massaged, leaving the region of the vesicle undisturbed. A varying amount of prostatic fluid can be expressed so as to flow from the meatus, but this is not to be regarded as the whole expressed contents, as a certain amount will flow back into the bladder, depending, probably, on the condition of the posterior urethra. If, now, the patient empties the bladder, as much has been done as possible to eliminate contamination from neighboring organs. The bladder is then a third time distended and the vesicles massaged, expressing the contents as thoroughly as possible. By this massage, a variable amount of vesicular contents is expressed so as to come out at the meatus, but in many cases the major portion of it runs back into the bladder and is passed when that viscus is emptied. By using this routine an approximately accurate idea of the contents of the vesicle can be obtained and it is obtained moderately free from contamination.

Lancet-Clinic, Cincinnati.

May 6.

34 *After-Treatment in Abdominal Operation. H. J. Whitacre, Cincinnati.
35 Treatment of So-called Incurable Chronic Disorders by the Physiologic Method. J. H. Kellogg, Battle Creek, Mich.
36 Death Through Misadventure. W. W. Vinnedge, La Fayette, Ind.
36½ Urethrorrhea. E. Harlan, Cincinnati.

34. **After-Treatment in Abdominal Operation.**—The chief points made by Whitacre are: 1. The importance of the face mask as an additional safeguard. 2. The prevention of postoperative vomiting by the stomach irrigation. 3. The avoidance of shock by minimizing the injury. 4. The high value of salt solution per rectum in re-establishing kidney function and in contributing to the comfort of the patient. 5. A prolonged period of convalescence will restore the patient most promptly to a normal state of health.

Memphis Medical Monthly.

May.

37 Facts Versus Theory in the Treatment of Pneumonia. J. L. McLean, Memphis.
38 Lobar Pneumonia and Its Sequelæ; Report of Cases. W. T. Black, Memphis.
39 Further Remarks on the Etiology of Blackwater Fever. J. B. McElroy, Memphis.
40 Ulceration of the Cornea in General Diseases. E. C. Elliott, Memphis.
41 Cough from Causes Outside of the Lungs. J. W. Price, Memphis.
42 *Technic of the Operation for Appendicitis. J. E. Johnson, Memphis.

42. **Operation for Appendicitis.**—The technic prescribed by Johnson is very nearly that used by Morris. After the usual preparation, he begins by taking up a fold of skin and fat between the thumb and index finger, and divides it down to the external oblique. The points of the closed scissors are now pressed through the external oblique, and by opening, split the muscle (aponeurosis in this location) to correspond with the opening of the skin. The internal oblique and transversalis are treated in the same way as the external oblique. The peritoneum is divided between the two forceps, and a strand of No. 2 catgut is passed through one end of the incision and tied. This suture is to be used for drawing up the peritoneum and for closing. The appendix is now tied off close to the bowel and removed; the stump is touched with carbolic acid. The cuff of peritoneum is sutured by what is practically a double Lembert suture. This suture is tied and the ends used as a retractor, while a pouch-string suture is introduced, by beginning half an inch from the appendix, and including part of the peritoneal covering of the bowel, all around. The space between this suture and the suture already tied is scarified with a needle. The ends of the suture in the cuff are now cut off, and as the pouch-string suture is tightened, the stump is pressed back into the bowel. The exposed portion is washed with salt solution and returned to the abdomen. This method of handling the stump has several advantages over simply tying a ligature around and cutting off the appendix, viz., it prevents leaking; there is less appendix left, which might slough; if it does slough, it is inside of the bowel; the peritoneal surfaces are directly together, and do not have to depend on pressure atrophy to bring them together; the peritoneal surface of the bowel, half an inch from the appendix, is brought over the stump; there is no exposed stump to cause adhesions. The closure is begun by drawing back the muscles with tenacula and with a curved needle, and the catgut, already tied into the peritoneum, closes the peritoneum, using a continuous suture. Tie and cut off the suture. With the tenaculum draw the two outer muscles toward the median line and begin the suture in the transversalis, allowing the muscles to come toward the outside as the suturing continues. By retracting in the direction of the split that is being closed, the opening can be kept over the part of the incision that is being sutured, thus giving plenty of room. The muscles move freely over each other and can be retracted for a considerable distance. The internal and external oblique are sutured in like manner, using plain No. 1 catgut. The skin is closed by a subcuticular suture of plain No. 1 catgut and covered with collodion. The advantages of this incision are self-evident. No muscles are cut, they are split. There is no cicatrix binding all of the muscles together and acting as a splint, as in the straight through cut. There is less risk of hernia; there is less pain; the healing is quicker; the scar is hardly noticeable. The patient is allowed to turn over at will, from the first, and may be allowed to leave the bed in from five to seven days.

Brooklyn Medical Journal.

May.

43 *Surgical Treatment of Cirrhosis of the Liver. R. S. Fowler, New York.
43½ Clinical Study of Abscess of Lung. W. H. Rankin.
44 Case of Esophageal Pouch. W. C. Wood.
45 Purulent Ophthalmia. J. C. Hancock.
46 Pelvic Condition of Primiparæ When They Are Discharged from the Physician's Immediate Care. A. M. Judd.
47 "Growing Pains" Fallacy. R. W. Westbrook.
48 Report of Two Cases of Maternal Impression. R. E. Coughlin.

43. **Surgical Treatment of Cirrhosis of Liver.**—The operative procedure employed by Fowler is as follows: After the usual preparation of the patient for anesthesia and abdominal section, the abdomen is tapped some hours before the time set for the operation, preferably the night before, and as much fluid as possible drawn off. This relieves the respiratory embarrassment and so conduces to a safer anesthesia. The patient having been anesthetized, the abdomen is opened by a median incision, reaching from the ensiform cartilage to halfway between the umbilicus and the pubes. The edges of the wound are widely retracted and the peritoneal cavity is thoroughly dried. Every particle of fluid is sponged away. This is not done gently, but roughly, with large, coarse laparotomy pads. The peritoneum is scrubbed with a crash sponge. The upper portion of the liver is scraped with a scalpel, as is also the peritoneum covering the diaphragm. The freshening of the surfaces is completed by going over them roughly with a small piece of crash toweling grasped in a stick sponge holder. The surface of the spleen is likewise abraded, but not as roughly as the liver surface. The next step consists in shortening the round ligament of the liver by taking pleats in it and suturing it to the parietal peritoneum and rectus muscle. This holds the liver in closer apposition to the diaphragmatic peritoneum. To make the approximation more complete, the anterior edge of the liver is sutured to the parietal peritoneum. All sutures are interrupted and of chromic catgut in round needles. Following this, one edge of the wound is widely retracted, and the omentum is sewn to the parietal peritoneum in a line across the abdomen and up to the wound margin. The same procedure is carried out on the opposite side. The first sutures placed are those furthest from the wound. The peritoneum is again dried, and the wound closed with cross sutures of silkworm gut, fastened through rubber bolsters. The skin is sutured with a continuous chain-stitch of silk. The subsequent dressing and treatment is that usually employed in laparotomy cases in which the intestinal canal has not been invaded.

New York State Journal of Medicine, New York.

May.

49 Prostatic Hypertrophy. W. B. Jones, Rochester, N. Y.
50 *Alexander Operation; Its Results, Immediate and Remote. J. E. King, Buffalo, N. Y.
51 *How and When to Use Antitoxin in Diphtheria. C. G. Kerley, New York.
52 Gynecologic Importance of Prolapsed Kidney. A. H. Goelet, New York.
53 Passing of the Old Physician. E. Lester, Seneca Falls, New York.
54 Diarrhea and Bowel Troubles in Infants and Adults. B. W. Stearns, Binghamton, N. Y.
55 Infantile Cerebral Palsy in Its Relation to Epilepsy. E. Sharp, Katonah, N. Y.
56 Symptoms of Cerebrospinal Meningitis. G. H. Fish, Saratoga Springs, N. Y.
57 Observations on the Use of Forceps. E. M. Scofield, Jamestown, N. Y.
58 Clinical Features and Treatment of Epidemic Cerebrospinal Meningitis. F. Huber.

50. **Alexander Operation.**—A word is said in favor of this procedure by King, who believes that recurrence of the pathologic condition for the relief of which the patient is operated on by this procedure should be very rare, if the technic of the operation be varied according to what in the judgment of the surgeon seemed to be the requirements of the case, as determined by the size of the ligaments. When all is said and done, concludes King, it must be admitted that the Alexander operation has a prominent place in the treatment of uncomplicated retroversion.

51. **Antitoxin in Diphtheria.**—Kerley emphasizes the fact that the dosage of antitoxin is not fixed by the age of the patient, but by the severity of the infection and the duration of the disease when first seen. One child may require three thousand units of the antidote; another, 30,000 units.

American Practitioner and News, Louisville.

May.

59 William Osler—An Address. J. W. Irwin.
60 Syphilis. J. M. Morris.
61 *Cystitis. S. S. Prather.
62 *Cesarean Section for Myoma-Uteri Obstructing the Entire Pelvic Outlet. F. W. Samuel.
63 *Observations and Conclusions in Obstetrics. W. A. Keller.
64 *Points on Surgery of the Gall Bladder. L. P. Spears.

61. **Cystitis.**—In acute cystitis, Prather advocates no irrigation, soothing drinks, antiseptics, sedatives, hot applications to the pubes and rest in bed. For chronic cystitis, irrigation, stimulation, antiseptics and moderate exercise.

62. **Cesarean Section for Myoma Uteri.**—Samuel's paper is a review of this subject, with the indications and limitations as to treatment, and the report of one case.

63. **Observations in Obstetrics.**—Attention is directed by Keller to a few points in connection to the practice of obstetrics that bear frequent repetition. He says that the more the obstetrician follows nature, the better will be his results. Assist nature as much as possible without interference. More times harm has been done by trying to do too much than by not doing enough. In applying forceps, be sure of an empty bladder, and the position of the fetus; or get some one to put them on that does know the position. It is imperative to examine the perineum after all deliveries, and it is always well to give the patient a dose of ergot after the third stage of labor.

64. **Surgery of the Gall Bladder.**—For the treatment of cholelithiasis, Spears advocates cholecystostomy as the only conservative procedure in these cases, except where empyema or subsequent rupture and infection have taken place, in which case cholecystectomy is the best procedure, allowing that the common duct is not obstructed. Four cases are reported.

Milwauke Medical Journal.

April.

65 *Treatment of Retro-Displacements of the Uterus. C. A. Stewart, Duluth, Minn.
66 Juglandin. W. F. Waugh, Chicago.
67 Diagnosis of Extrauterine Pregnancy. J. Bruess, Milwaukee.

65. **Retrodisplacements of the Uterus.**—Some modifications of the methods generally practiced for the relief of retrodisplacements of the uterus have been made by Stewart, which simplify the procedure, and at the same time secure permanency of results. After breaking up adhesions the uterus is replaced in position and each round ligament is caught by a uterine tenaculum at a distance of from one to one and one-half inches from the uterus, depending on the amount of slack that the replacement of the uterus leaves in the ligament. Gentle traction is then made, sufficient to make the ligaments taut, when it will be seen that the vesico-uterine peritoneum has been lifted up so that it forms a sulcus. The sides of this furrow are overlapped and stitched together with a fine catgut suture which, as it approaches the round ligaments, tends to draw them together so that when it is completed the two ligaments are in close juxtaposition. The loop formed by the slack in the round ligaments is then stitched together with chromic catgut, after which they are folded over toward each other, fastened together and to the anterior aspect of the uterus. A reasonably extensive experience has convinced Stewart that his method possesses certain points of excellence that entitle it to consideration, such as ease and facility of execution, the certainty of securing equable support to the uterus by the uniformity of traction on each round ligament, and the added element of strength afforded by stitching the folds of peritoneum together so that they are able to aid in giving support to the replaced organ.

St. Louis Medical Review.

May 6.

68 Diagnosis of the Pneumonias. L. Litchfield, Pittsburg, Pa.
69 Pathology of the Pneumonias. J. C. Lange, Pittsburg, Pa.

Vermont Medical Monthly, Burlington, Vt.

March 25.

70 Epidemic Influenza in the Etiology of Certain Diseases. W. N. Bryant, Ludlow.
71 Hysterectomy for Fibroid Tumor of the Uterus; Recovery. A. L. Smith, Montreal.
72 Febricula. W. F. Waugh, Chicago.
73 Cancer of the Uterus. C. E. Chandler, Montpelier, Vt.
74 Treatment of Menstrual Disorders; with Special Reference to Cases in Women Suffering from Mental Diseases. G. S. Walker, Staunton, Va.

Detroit Medical Journal.

March.

75 Cancer and Sarcoma as Affected by Locality. T. A. McGraw, Detroit.
76 General Vibratory Massage. C. Sandzen, Kansas City, Mo.
77 Facial Erysipelas. G. W. Spohn, Elkhart, Ind.
78 Deformities of the Feet Corrected by Elastic Screw and Solid Pressure. V. L. Smith, Detroit, Mich.

April.

79 Hackley Hospital—A Model for Small Cities. F. W. Garber, Muskegon, Mich.
80 Case-History Clinic. R. C. Cabot, Boston, Mass.
81 Differential Diagnosis and Treatment of the Chronic Non-Tubercular Joint Diseases. W. E. Blodgett, Detroit, Mich.

Journal of Advanced Therapeutics, New York.

May.

82 Certain Theoretical and Practical Considerations on the Use of High-Frequency Currents. M. W. Brinkmann.
83 Report of the Committee on Current Classification and Nomenclature. W. J. Jenks and C. I. Clark.
84 Consideration of Some Electrical Modalities with Cases Bearing Thereon. J. H. R. Bond.
85 Contribution to the Knowledge of the Radio-Activity of the X-Ray Tuber. O. Juettner.

Medical Fortnightly, St. Louis.

May 10.

86 Conservative Treatment of Chronic Middle Ear Suppuration. F. R. Packard, Philadelphia.
87 Eradication of Syphilis and Gonorrhea. J. H. Adams, Paoli, Pa.
88 Thorns Among the Roses of a Specialist's Life. A. L. Benedict, Buffalo.
89 Anatomic Eponyms. R. S. Gregg, Chicago.

Buffalo Medical Journal.

May.

90 Traumatic Tetanus. C. Bentx, Buffalo, N. Y.
91 Pendulous Abdomen. J. P. Creveling, Auburn, N. Y.
92 Quarantine. F. H. Sawers, Rochester, N. Y.

Louisville Monthly Journal of Medicine and Surgery.

May.

93 Symptoms of Surgical Lesion in the Upper Right Abdomen. H. Grant, Louisville.
93½ Cesarean Section, Ectopic Gestation, Desmoid-Sarcoma and Uterine Fibroid. L. Frank, Louisville.
94 Tension—Its Relation to the Physical Organization. J. Glahn, Owensboro.

Cleveland Medical Journal.

May.

95 Anti-Tuberculosis Movement in Cleveland. J. H. Lowman, Cleveland.
96 Nutrition in Tuberculosis. J. P. Sawyer, Cleveland.
97 Mental Side of the Consumptive. G. H. Fitzgerald, Albuquerque, N. Mex.

California State Journal of Medicine, San Francisco.

May.

98 Thirty-Fifth Annual Meeting of the Medical Society of the State of California. F. L. Adams, Oakland.
99 Notes on Recent Progress in the Surgery of the Ear and Brain. A. Barkan, San Francisco.
100 Use of Benzoylvinyl-Diacetone-Alkamine (Beta-Eucain) Lactate in Eye, Nose and Throat Work. H. B. Ellis, Los Angeles.
101 Case of Primary Carcinoma of the Lung. H. Herbert, Los Angeles.
102 Tendon Transplantation. F. Lange, Munich.
103 Nephrotomy for Stone in the Kidney. C. M. Cooper and W. I. Terry, San Francisco.
104 Osteomalacia. C. S. Stoddard, Santa Barbara.
105 Fractures of the Anatomic Neck of the Humerus. T. L. Loofburrow, Eureka.
106 Recurrent Eclampsia. O. B. Spalding, Yreka.

Journal of Experimental Medicine.

April.

107 Study of the Changes in the Blood and Blood-Forming Organs Produced by Cytotoxic Sera, with Special Reference to Hemolymphotoxin. H. Woltmann.
108 Artificial Anastomosis Between the Portal Vein and the Vena Cava Inferior—Eck's Fistula. J. E. Sweet, New York.
109 A Second Coagulation of the Blood Due to a Substance That Is Not Identical with Fibrinogen and Is Coagulable by Saturation with Neutral Oxalate. E. T. Reichert.
110 Comparative Statistics of Antitoxin Horses. A Study of the Records of One Hundred Horses Immunized to Diphtheria Toxin, with Composite of Curves. W. R. Hubbert, Detroit, Mich.
111 Observations on Endothelial Separation in the Smaller Arteries and Veins. C. G. Farnum.
112 Study of the Protective Action of Snake Venom on Blood Corpuscles. H. Noguchi.
113 Method for Obtaining Mass Cultures of Bacteria for Inoculation and for Agglutination Tests. P. H. Hiss, Jr.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal.

May 29.

1 *Etiology of Carcinoma. G. T. Beatson, M.D., Edinburgh.
2 *Malignant Disease of the Fundus Uteri. A. J. Cleveland and D. D. Day.
3 *Points of Incidence Compared in Cancer, Leucoderma and Scleroderma. G. L. Cheatle.
4 Cinnamic Salts in the Treatment of Cancer. L. Drage, Hatfield.

5 *Case of Cancerous Disease of the Stomach. W. M. Stevens, London.
6 Grafting of Completely Separated Skin Flaps in the Treatment of Contractures Due to Cicatrices. R. Kennedy.
7 Recurring Torsion of the Spermatic Cord, with an Account of Five Cases. J. W. Dowden, Edinburgh.
8 *Investigation on the Regeneration of Nerves. B. Kilvington.

1. **Etiology of Carcinoma.**—In this article Beatson reiterates his views as to the germinal or reproductive tissue theory of cancer first enunciated by him nine years ago and offers additional evidence which he believes is in favor of this method of causation of cancer.

2. **X-Ray in Malignant Disease of Fundus Uteri.**—For the purpose of controverting the opinion generally held that the treatment of all but quite superficial malignant growths by the *x*-rays is useless, Cleveland and Day cite one case of cancer of the fundus uteri which was treated successfully by this means. The diagnosis was not confirmed microscopically, the clinical symptoms all pointing toward a malignant growth. The tumor was treated through the abdominal wall with a moderately high tube excited by a mica-plate static machine, applying the rays directly over the pelvis for fifteen minutes at a time, three times a week, the tube being about six inches distant from the skin. The treatments were given at intervals, 12 or 13 at a time, because of severe dermatitis. Seven months after the treatment was begun no tumor could be found, the uterus was freely movable, and there was no discharge; menstruation was normal and the patient was enjoying good health.

3. **Incidence Compared in Cancer, Leucoderma and Scleroderma.**—The points of incidence in which the cancer process begins on the skin are discussed by Cheatle, and attention is drawn to the fact that the point of incidence must have an important etiologic bearing on the actual genesis of cancer. The author believes that the observations made by him strengthen the opinion which he previously expressed that the incidence of cancer may be due to direct or indirect nervous influences of the area in which it occurs, as is now believed to be the case in leucoderma and scleroderma. This nervous influence, if present, is probably either peripheral or a peripheral modification of central influence, and not only segmental. The spread of rodent ulcer on the trunk, as it does on the head and face, appears, on the whole, to resemble the spread of scleroderma and leucoderma, and hence the spread, as well as the incidence of rodent ulcer on the body, is under a nervous influence which is peripheral.

5. **Cancer of Stomach.**—The case reported by Stevens is of especial clinical and pathologic interest, being one of latent carcinoma of the stomach, in which he was able to make an early and correct diagnosis by discovering the presence of glandular enlargement in the left supraclavicular region, and in which postmortem examination showed extensive cancerous affection of the stomach and liver, associated with marked cancerous disease of the thoracic duct and localized infection of the above mentioned glands. The entire duration of the symptoms was seventeen months, during the last five of which the patient was unable to work. There was an entire absence of gastric symptoms until the latest stages. The most prominent symptoms were marked edema of the legs and scrotum, with shortness of breath due to pressure on the veins. This case demonstrates the following points: (a) The marked edema which may be due to intra-abdominal disease; (b) the latency in some cases of cancer of the stomach; (c) the absence of typical signs or symptoms of cancer of the liver; (d) the transference of infection by the thoracic duct; (e) the significance of glandular enlargement above the left clavicle.

8. **Regeneration of Nerves.**—According to Kilvington, it is possible to functionate two opposing groups of muscles by a single nerve which previously supplied one group only; or, to put it in another way, it is possible to innervate fairly completely muscles with a much smaller number of motor horn cells than usually bring about this effect. When the central end of one nerve is joined to the peripheral ends of two nerves there are many more fibers in the peripheral nerves than in the central nerves, so that the nerve fibers in the proximal trunk divide on going to the distal trunk. In some cases, at least, some of the branches from one nerve fiber go to supply one set, and others the opposing set of muscles. This may prevent very delicate movement being restored. In infantile paralysis there is a loss of power in certain muscles as the result of destruction of a certain number of motor ganglion cells in the anterior horn of the spinal cord. Kilvington's experiments show that a certain number of these motor cells can be dispensed with and yet all the functions of the limb be efficiently retained. This suggests the idea that it is probable that a good result could be obtained by suturing the nerve supplying the paralyzed muscles on to the cut surface of the proximal end of an adjacent healthy nerve. The healthy nerve may be cut partly across and the paralyzed one fixed in the gap so formed. This has the advantage that some of the muscles are never cut off from their nerve supply, but the healthy nerve may be cut completely across, and its own peripheral end, as well as the peripheral end of the paralyzed nerve, sutured to the central end. This has several advantages; in the first place, it gives all the fibers in the proximal nerve the chance of branching (for this seems impossible without dividing a fiber) and supplying a greater number of muscle cells. In the second place, the innervated muscles are liable to shorten and develop a contracture before regeneration in the divided nerves has taken place. Lastly, it is possible that the mechanical interposition of the paralyzed nerve may prevent some of the branches of the peripheral end of the healthy nerve receiving any fibers. Kilvington thinks nerve crossing would be specially applicable in the common form of infantile paralysis where the extensors of the toes and the peronei are affected. There are two classes of cases where it is probable that this procedure would be useless. First, in those cases where a large amount of recovery takes place with a limb fairly useful, but still not so strong as its fellow, it is very doubtful if we could hope for a better result from nerve suture than would occur naturally. Secondly, in very severe cases, where only a small group of muscles remains intact (as, for example, a case where the peronei alone retain their function), it is very questionable if the fibers of the musculocutaneous nerve could innervate at all efficiently the muscles supplied by the anterior tibial and large internal popliteal. Several objections may be raised against this procedure. It is impossible to tell for a considerable time how much recovery will take place naturally, and during this delay fatty degeneration and atrophy of the muscle fibers is going on.

The Lancet, London.

April 29.

9 *Nutrition and Malnutrition. W. H. Allchin, London.
10 *Two Cases of Cerebrospinal Meningitis. J. A. Ormerod.
11 *Case of Excision of the Rectum for Carcinoma Recti. F. C. Wallis.
12 Absence or Marked Diminution of Free Hydrochloric Acid in the Gastric Contents in Malignant Disease of Organs Other Than the Stomach. B. Moore.
13 *Effect of Certain Baths and Forms of Electricity on the Blood, Blood Pressure and Metabolism. W. Bain, W. Edgecombe and H. Franklin, London.
14 Case of Extensive Cutaneous Diphtheria, with an Examination of the Nervous System. C. Bolton and D. Brewer, London.
15 Tumor of the Right Caudate Nucleus and Frontal Lobe. D. McCay and E. O. Thurston, England.
16 Latent Pneumothorax. B. C. Stevens.
17 *Two Cases of Tetanus Treated by Antitetanic Serum. R. A. Stoney.

9. **Nutrition and Malnutrition.**—In this lecture, the first of the series, Allchin considers the structure and composition of the bioplasm, the essential characters of the ingesta needful to maintain the living being in structural integrity and functional capability, with the active relation of these factors to one another, and how the bioplasm deals with the food and the outcome thereof.

10. **Cerebrospinal Meningitis.**—The first of Ormerod's cases was a tuberculous meningitis affecting both the brain and the spinal cord; the second was a purulent meningitis of uncertain causation, affecting chiefly the cord and setting up abscesses elsewhere, one of which perforated into the peritoneum. The history of each case and a necropsy report are given in detail.

11. **Carcinoma of Rectum.**—The growth in this case was situated mainly in the posterior wall of the rectum, but extended also on to the anterior wall. It commenced about

three and a half inches from the anus and was freely movable. A skin incision was made from the fourth sacral spine to the tip of the coccyx, and all structures were divided down to the bone. The coccyx was removed, but the sphincters were left untouched, and a portion of the sacrum was taken away by bone forceps. The rectum was freed above and below the growth, the peritoneum being freely opened. A stout silk ligature was passed round the bowel above the growth, and the rectum was divided and turned down and again divided below the growth, about three inches of bowel being removed. The two ends could not be united, but one or two sutures approximated the cut surfaces anteriorly, and then the upper end was sutured to the sacral opening. The remainder of the incision was closed with silkworm-gut sutures after the wound had been thoroughly irrigated and packed with iodoform gauze. A large tube was passed into the bowel and packed round with iodoform gauze. The patient made a good recovery and he has now, to all intents and purposes, a normal rectum with perfect sphincteric control and is in excellent health. The wound was irrigated twice daily after the first 48 hours with either saline or boric solution; as few stitches as possible were applied to the approximated edges in order that drainage might be as free as possible; the greatest care was taken to divide the bowel well above the growth, when possible well below it, and to avoid infecting the wound from the bowel (this was avoided by ligatures and guards); the patient sat up in bed as soon as possible for better drainage from the wound. The fact that perfect control and practically normal sensation were obtained after such an operation is particularly interesting.

13. **Effects of Bath and Electricity on Metabolism, Blood and Blood Pressure.**—Bain and Frankling summarize the results of their investigations as follows: The physiologic action of the high-frequency current in its general application tends to confirm its use in cases of nutritional disorders, such as chronic gout, chronic rheumatism and obesity, by reason of the changes effected in blood pressure and the stimulus given to metabolism, as shown by the plus heat production, the plus excretion of urea, of uric acid and of CO_2 and the loss of weight. The rise produced in the hemoglobin value of the corpuscle points to its use in the above cases when anemia is a prominent symptom and also as a useful adjunct in cases of simple anemia and chlorosis. The distinct contraction of unstriped muscle fiber excited by the effleuve indicates a trial of the method in cases of atony of the hollow viscera, and may also account for the striking results sometimes observed in the shrinking and disappearance of hemorrhoids after repeated applications. The evidence of its real value in cases of diabetes and phthisis does not appear to rest on a sufficiently large number of cases to carry conviction as to its superiority over other modes of treatment. With regard to its action in local affections of the nerves and skin, results offer no evidence for or against. Electric immersion baths are used largely to induce restoration of contractile power in cases of muscular weakness or atrophy resulting from nerve lesions or essential muscular dystrophy, and in cases of neurasthenia and the latent form of hysteria. They are also useful as a general tonic measure in cases presenting no definite disease, but suffering from slackness and want of tone. The results obtained on metabolism are not sufficiently striking to justify the frequent employment of these baths in cases of chronic gout unless the slight increase in elimination of urea and uric acid which followed the constant current may be considered an indication in this direction. The striking results obtained on the hemoglobin value of the blood with the light and ozone bath point to its use in cases requiring sweating baths, in which anemia is present, and further tend to show that the daily breathing, for a stated time, of air highly charged with ozone may be a useful auxiliary measure in the treatment of intractable cases of chlorosis and secondary anemia. Peat baths are largely used in cases of chronic pelvic disorder of an inflammatory nature. Their action, which resembles that of a widespread poultice, materially aids in the absorption of effused products. They are also used for cases of chronic intractable rheumatism and gout and in local manifestations of these disorders, such as lumbago or sciatica. The results obtained are not conclusive enough to indicate strongly in which direction they are likely to be of service. Thermal sulphur baths are largely used at Harrogate in the treatment of gout, rheumatism and functional derangements of the liver and also for their local action on the skin in cases of skin diseases. In the former, as well as in the latter, experience shows that they are of undoubted value, though their mode of action is by no means clear. Apart from their marked effect on blood pressure, which has been previously shown, this investigation proved nothing conclusive as to their influence on metabolism.

17. **Serum Treatment of Tetanus.**—Stoney's cases present a marked contrast to one another. In both the incubation period was long—in the first case 17 days and in the second case probably 18 days. In both the temperature was normal on the first appearance of the symptoms, in the second case it remained normal throughout the course of the disease; but in the first case after a preliminary fall it rose rapidly to 102 F. in 20 hours. In both cases the treatment was the same—i. e., injection of serum and the administration of large doses of bromid of potassium and chloral hydrate by the rectum. In the one case death occurred within 60 hours of the onset of the first symptom, whereas the second patient recovered. In the first case, the spasms were both frequent and severe, while in the second only one was observed. The only conclusion to be drawn from these two cases is that the result was due to the degree of infection and was not materially altered by the treatment.

Presse Médicale, Paris.

18 (No. 30, April 15.) L'ankylostomiase cutanée. W. Dubreuilh.
19 Drinking.—La boisson qualitativement et quantitativement envisagée chez les malades et les gens bien portants. H. Labbé.
20 *Un sou dans l'esophage. A. Broca.
21 (No. 31.) Le rôle du sucre dans l'alimentation (sugar). G. H. Lemoine.
22 Traitement électrique de la sciatique. C. N. de Blois (Trois-Rivières, Canada).
23 (No. 32.) Circulaire de propagande du Congrès International de la Tuberculose de 1905.
24 Amélioration spontanée survenue dans un cas d'ostéomalacie masculine arrivé aux déformations les plus extrêmes avec complications de lithiase vésicale et rénale. Berger.
25 *Traitement du mycosis fongoide par la radiothérapie. J. Belot.

20. **A Coin in the Esophagus.**—Broca rather ridicules the complicated measures advocated for the extraction of a coin that has lodged in the esophagus. He thinks a penny can be readily extracted with the Graefe extractor, a little basket swinging on a crossbar at the end of a whalebone. He shows by four illustrations what to do and what not to do, and states that he has extracted more than a hundred coins in this way with only one mishap, which occurred at the beginning of his practice. He inserts his left forefinger to guide and to bend the extractor as it enters the throat. When he begins to withdraw the instrument he pushes his finger down to meet it, and if it has caught the coin he works his finger over the coin until it fits into the space between nail and pulp of his finger. He then withdraws the extractor and the coin comes out safely without the slightest injury to the walls of the esophagus. The penny usually lodges at an accessible point in children at the penny-swallowing age.

25. **Radiotherapy of Fungoid Mycosis.**—The illustrations before and after show the complete objective cure of a severe case of fungoid mycosis of long standing. The patient was a woman of 39 and she was given daily exposures to the Roentgen rays, never surpassing the dose of 9 H unities for a single tumor at a sitting. For more than a year she thus absorbed from 5 to 7 H units a day, or a total of 1,200, without inconvenience of any kind, and with the final retrogression of all lesions, and no recurrence since her return home in August, 1903. The tormenting pruritus ceased almost at once after the exposures, within three days at latest.

Berliner klinische Wochenschrift.

26 (XLII, No. 14, April 3.) *Dropsy of Renal Origin.—Experimentelles über die Nierenwassersucht. P. F. Richter.
27 *Beitrag zur Behandlung der Ankylostomiasisanämie und der Tropen-Anämien. O. Liermberger.
28 *Beziehungen der Balneologie zur Chirurgie (relation between). F. Krause. (Concluded.)

29 Notwendigkeit und Art der Desinfektion der Krankenbeforderungsmittel (transportation of the sick). G. Meyer.
30 (No. 15.) *Digestive Affections and Balneology.—Verdauungskrankheiten und Balneologie. C. A. Ewald.
31 *Intoxication with Calcium Sulphid.—Ueber Vergiftung mit Schwefelalkalien. E. Stadelmann.
32 *Blunders in Water Cures.—Missgriffe bei Wasserkuren. Winternitz.
33 Ueber experimentelles Hydramnion bei Nephritis. E. Bibergeil.
34 *Aims and Limits of Balneotherapy at Home.—Ziele und Grenzen der Balneotherapie in den Wohnorten der Patienten. F. Frankenhäuser.
35 Untersuchungen über das Dysenterie-Aggressin. Y. Kikuchi.
36 *Ueber Röntgen-Diagnostik und Therapie innerer Krankheiten. R. v. Jaksch (Prague). (Commenced in No. 14.)
37 *Die diagnostische und therapeutische Verwendung der Probe-Punktion in der internen Medizin (exploratory puncture.) O. de la Camp.
38 (No. 16.) Balneologie und Ohrenkrankheiten (and ear affections). Passow.
39 *Die Kombination der Radiotherapie mit der Organotherapie. A. v. Poehl and Prof. Prince J. v. Tarchanoff (St. Petersburg).
40 Ueber Ecchinokokken der Schilddrüse (of thyroid gland). O. Ehrhardt (Königsberg).
41 Zur Pseudo-Leukämie-Frage. K. Nowack.
42 The Minimum of Sanitary and Hygienic Requirements at a Watering Place.—Die gesundheitlichen Mindestforderungen an Badeorte. H. Ruge.
43 Aetiologie und allgemeine Therapie der Arteriosclerose. O. Burwinkel.
44 Die therapeutische Verwendung der Licht-Wärme-Strahlen (light-heat rays). A. Laqueur.

26. **Experimental Research on Dropsy of Renal Origin.**—Richter's experiments were made on rabbits injected subcutaneously with .0075 gm. uranium nitrate. He found that the amount of dropsy was about the same on the same amount of water ingested, whether salt were added to it or not. He thinks that this speaks against the importance recently ascribed to retention of salt in the etiology of dropsy. The main point in the production of dropsy is the intake of water. On a salt-free diet, the subject is not so thirsty, and consequently takes less water, so that he is thus indirectly benefited by the "dechloridation." Richter is inclined to believe that this is the only benefit derived. His experiments further showed that fluids in the form of milk or mineral waters are subject to the same laws. Intake of fluids in any form does not sweep out the waste matters, nor open the sluices of the kidneys. The fluid merely accumulates in the body and increases the tendency to dropsy.

27. **Treatment of Tropical and Ankylostoma Anemia.**—Liermberger practices at Levico, in Southern Tyrol, where there are famous arsenic-iron springs. He describes the symptomatic cure of a number of cases of tropical and ankylostoma anemia by the use of these waters. The systematic use of the Levico waters restored the patients to health, the blood findings becoming normal, even before other medication was attempted. His experience has further shown that tropical anemia, especially the malarial type is promptly curable with the Levico waters, sustaining their traditional reputation in this respect.

28. **Relations Between Balneology and Surgery.**—Krause remarks that when a man of character wills to recover the full use of his limbs and his working capacity after some surgical affection, it is astonishing how effectual the balneologic measures prove. Results are obtained in a short time such as are unrealizable by others under like conditions or only after months of torment. These balneologic measures have been applied on an extensive scale in the army sanitarium at Wiesbaden, which has had 19,939 inmates since its foundation in 1871, the average each year ranging from 177 to 886. About 62.3 per cent. of the inmates since 1894 suffered from surgical affections. The average stay in the sanitarium was thirty days. The chronic stage that follows the acute phase in infectious osteomyelitis was very favorably influenced by the prolonged or continuous thermal baths.

30. **Affections of the Digestive Apparatus and Balneotherapy.** Ewald's article was read as an address at the recent German congress of balneology. He reviews the action of the various mineral waters on the digestive apparatus, remarking that dogs with a Pawlow fistula would be useful subjects for study of the action of mineral waters. He advises against any relaxation of strict dietetic regulations. The patients are usually those who "live too well" all the year around, and need the traditional restrictions accompanying the water course. He classifies the indications for the employment of the various groups of mineral waters, adding that empiricism speaks the last and decisive word in the matter. A personal knowledge of the spas is a great advantage for the physician. The annual "medical study trips" have proved very valuable institutions for this purpose in Germany and France.

31. **Intoxication with Calcium Sulphid.**—A young woman took internally some powder sold to apply as a paste for use as a depilatory. The symptoms were delirium, clonic convulsions, vomiting, cyanosis, small pulse, greenish-black formed stools and grayish-brown urine. The patient gradually recovered. The depilatory is sold under the name of "*Haarfeind*," hair enemy. It eats off the hair, leaving the spot as smooth as if shaved. Stadelmann frequently uses it to prepare animals for experiments. It is made, probably, by introducing sulphuretted hydrogen into quicklime, and these combine to form calcium polysulphid or hepar sulphuris.

32. **Blunders in Hydrotherapy.**—Winternitz remarks that mistakes are liable to occur in estimating the amount of stimulation from the thermic and mechanical stimuli applied, in the behavior afterward, and in guiding and controlling the reaction. In applying cold baths in fever their effect on the nerves, vessels, heart, blood, tissues and intraorganic metabolism must be borne in mind. It is a mistake to apply very low temperatures, very slight mechanical stimuli and only for a short period. Such applications raise the temperature instead of reducing it; the innervation, metabolism and oxidations are whipped up instead of being checked. Long, cool, not cold baths, rather intensive mechanical stimuli, tranquil rest under adequate covering after such a bath, and its repetition at the proper time, are the necessary factors. By paying attention to the temperature alone, the physician is apt to err by too frequent and too cold baths in the severe infectious diseases. Winternitz has seen cases in which serious nervous disturbances were the result of this error (*febris nervosa, versatilis* in the aged). Longer intervals, slightly warmer water and longer baths, generally banish these frequently threatening complications. In typhoid, a very dicrotic and rapid pulse is more important as an indication for repeating the baths than a high temperature. Very rapid pulse with still vigorous heart calls for wet packs, repeatedly changed, which in case of a slow pulse and signs of weakness on the part of the heart would be a serious blunder. The behavior of the vessels is the guide for the choice of the temperature, and for the length and degree of the mechanical stimulation. When the vessels display a paralytic tendency, as in severe scarlet fever, the most energetic thermic stimulation is demanded, with avoidance of much mechanical stimulation of the skin. Brief dips and douches of quite cold water are often surprisingly effectual. In measles the indications are for powerful mechanical with only slight thermic stimulation. Rubbing down with a fine linen cloth wrung out of quite cold water responds to the indications in measles. The delayed eruption frequently appears at once after this procedure, and threatening symptoms vanish. The most prominent signs of collapse and heart weakness are the high temperature in the mouth and rectum (with clammy extremities, etc.). This condition calls at once for application of heat to the periphery and abstraction of heat from the trunk. Cold packs to the trunk and heat to the extremities have saved many a patient who would have been irremediably lost without such energetic and persevering applications. The water applied to the trunk should be as cold as possible and that applied to the periphery should be as hot as possible. In anemia, in chlorosis, and in convalescence, the error is in using too hot or tepid temperatures, forgetting that the aim is to stimulate all the sources of body heat to a powerfully increased function. Vigorous, brief thermic and mechanical stimulation of the nerves, following a preliminary thorough warming—these are the principles for such cases. In taking a sitz bath, the unimmersed parts of the body must be carefully covered to prevent loss of heat. Otherwise the effect of the bath is entirely annulled in treating intestinal affections. Usually in hydrotherapy the cold should follow hot applications, never the reverse. The physi-

ologic action of hydrotherapeutic measures should be better studied, and a well-conducted clinic for hydriatic treatment is a necessity, he thinks, in every medical school.

34. **Balneotherapy at Home.**—The classes of persons who most need this balneotherapy are chlorotic girls, weakly children and men with rheumatic muscular and joint affections, unable to afford a course at a watering place. Frankenhäuser suggests for such persons in large cities the establishment of some central station where mineral waters to drink and for baths can be obtained at a minimal price or a substitute therefor in packs and other hydrotherapeutic procedures, using mineral instead of ordinary water. The baths should be tepid, and the course should be preceded by a protracted bath in tepid water without soap to aid in the absorption of the mineral waters. After the course is begun, the patient should not bathe again in ordinary water to avoid washing off the salts. Certain German cities send the children into the country for the day during vacation, under the supervision of teachers, and mineral waters might be supplied for them to drink at these times. This article was read at the recent congress of balneology, with a special appeal to the resident physicians at the watering places to devise some means by which the advantages of the mineral waters can be supplied to the poor of the cities at a minimum price.

36. **Roentgen Diagnosis and Treatment of Internal Affections.**—Twelve cases of pneumonia were examined repeatedly with the Roentgen tube, and the course of the disease was traced, with marvelous exactness. In the majority of the cases, before the physical findings show any change, beginning resolution is shown by the Roentgen findings. This method further has disclosed that resolution generally begins in the center of the lobe. The Roentgen shadow of the infiltration is considerably larger than the percussion outline. It also showed in some cases a centrally located pneumonia. The lungs should be examined with the patient reclining and the rays should be applied in the ventro-dorsal direction. Roentgology, as yet, is not a reliable, independent method of investigation. It reveals the presence of certain changes more accurately than any other means at our disposal, but gives no information as to the nature of these changes. Its findings have to be studied by the light of observation at the bedside, bacteriology and chemistry, etc. It will bear fruit in internal medicine only in the hands of the trained clinician, not in the hands of the Roentgen specialist. In regard to Roentgen treatment of internal affections, von Jaksch has no success to record. The most he can say is that certain cancers of the stomach, thus treated, when examined anatomically, showed pronounced destructive processes, and increased suppuration, and thus by the falling away of parts of the tumor the pyloric opening was cleared, and the symptoms of stenosis were relieved. Cancerous glands retrogressed under Roentgen treatment, but adjacent glands constantly proliferated with greater intensity, so that he is absolutely skeptical as to any therapeutic value of these rays in internal medicine.

37. **Exploratory Puncture.**—Every puncture is a surgical intervention and it should be used as little as possible in internal medicine. When the needle is withdrawn, germs from the focus within may be sown along the needle path, or the puncture hole may prove a nidus for germs from the skin afterward.

39. **Combination of Radiotherapy and Organotherapy.**—The writers report that they have succeeded in impregnating cotton with the emanation from a solution of radium bromid. The solution is in a Wulff glass jar with two ends of a long tube passing through the stoppers of the jar. A glass cylinder, loosely filled with cotton, is introduced into the tube and also a double air bulb, farther along. Pressure on the air bulb drives the emanations from the radium solution along through the tube into the cotton, whence they pass through the air bulb back into the jar. The cotton thus charged retains its radioactive strength for three or four days, and is proving very useful in treatment of rodent ulcers, etc. The emanations of the radium behave like a gas, and it has been found possible to transfer them from the radioactivated cotton to fluid organ extracts or physiologic salt solution, which thus become radioactivated in turn in from fifteen to thirty minutes after the cotton has been put to soak in them. The organ preparations made by von Poehl are colloids, and recent research has established that organic colloids in suspension become precipitated under the action of various salts. It is possible, he remarks, that the specific action of the organ preparations is due to the fact that as they circulate in suspension after subcutaneous injection, they become precipitated when they reach the corresponding organ, as they there come under the influence of specific precipitating substances. It is possible also that the specific action may be due to the permeability for the organ cells in question. Be this as it may, if the organ preparations act specifically on certain organs, which experience has established to be the fact, then a radioactivated organ extract will carry the radioactivity to the exact specific point where it is needed. Properly made organ preparations are *per se* harmless, and further work in this line may lead to interesting results.

Centralblatt f. Chirurgie, Leipsic.

Last indexed page 1648.

45 (XXXII, No. 14.) *Ueber eine Vereinfachung der Technik der Transplantation nach Thiersch. L. Isnardi.
46 (No. 15.) *Die Behandlung von Darmlähmung (paralysis of intestines). K. Dahlgren.
47 *Eine neue Methode der Sterilisation von Catgut. W. Bartlett.
48 (No. 16.) *Der ektopische Testikel. Lanz.

45. **Simplified Technic for Thiersch Flaps.**—Isnardi has had eight years of experience with the use of the Thiersch flaps applied without the preliminary freshening of the granulations which the original technic called for as indispensable. He has thus treated 140 patients, and the results have been better than when the granulations were scraped or rubbed. His cases embrace all kinds of lesions and operations, and he always made a point to keep the granulating surface intact as far as possible. The method proved effectual even for extensive varicose ulcerations, the touchstone of transplanted flaps. The granulations must be small, pink, hard, healthy, and aseptic. The parts around the lesion must be frequently cleansed and all bleeding when the dressings are changed must be carefully avoided. The flaps are applied with a spatula just passed through a flame or with the fingers in freshly boiled rubber cots. A taut layer of coarse gauze over the flaps is fastened around the edges with collodion, the ends brought around and fastened together at the back of the limb or trunk. He applies a dressing of gauze, cotton and rubber over this, moistened with 3.5 per cent. boric acid, changing the dressings every twenty-four hours, or twelve hours in case of suppuration, not disturbing the immobilizing layer of gauze below. The exudate is cautiously dabbed away, and if blisters are noted the spot is scarified with fine scissors and the exudate dabbed off. Gauze and all are removed on the eighth day, the surface dusted with powder and smeared with lanolin, with dry gauze and cotton to keep it warm.

46. **Treatment of Paralyzed Intestines.**—Dahlgren describes his method of treating extensive suppurative peritonitis which has resulted in the cure of 8 out of 15 severe cases, a proportion of 53 per cent. recoveries. Four of the cured patients were treated by what he calls "milking" the paralyzed intestine. The aim is to evacuate the contents of the intestine as completely as possible. The operating table is slanted toward the left, and the distended small intestine is drawn out on a waterproof cloth covered with a towel. An incision from 1 to 1.5 cm. long is made across the bowel and held open with forceps. The intestine is then stroked with the thumb and forefinger, as in milking, and the contents are forced out through the incision. The milking is carried constantly farther along, 20 to 30 cm. at a time, upward to the duodenum and downward to the ileocecal valve, until the intestine has been emptied so that it can be readily replaced. To prevent the escape of gases backward, he sometimes uses an instrument for the milking which acts more

perfectly than the fingers. It consists of two thin-walled metal cylinders about 4 cm. in diameter by 7 cm. long. They are connected by a wire a few inches long which is crossed just above the cylinders, thus acting like a weak spring to hold them in contact. He has recently been surprised at the remarkable efficacy of atropin in certain serious cases of ileus not due to mechanical obstruction. One case was in a man of 81. The operation showed the intestine to be distended with commencing peritonitis, no peristalsis, no mechanical obstacle. Four injections of 1 mg. of atropin sulphate each caused a movement of the bowels and, after the fifth, abundant stools. The ileus recurred a few days later, but was again conquered by the same measures. These experiences impelled him to try these large doses of atropin in the paralysis accompanying perforation peritonitis when an operation had shown that the ileus was not due to mechanical obstruction. One patient was a young man with diffuse suppurative peritonitis, pulse 140 and fever 39.7 C., with albuminuria. The operation was followed by marked improvement, but ileus developed. A fistula was made in the cecum and atropin injected, with restoration of the bowel movements and recovery. These four patients received each from 5 to 7 mg. of atropin sulphate in from twelve to fifteen hours, and tolerated it without mishap.

47. **New Method of Sterilizing Catgut.**—Bartlett's method consists in drying the catgut, placing it in liquid paraffin until it becomes transparent, about twelve hours, then heating to 160 C., and then setting aside in a 1 per cent. methyl alcohol solution of iodin. A year's experience and countless tests, he states, have proved the superiority of catgut sterilized by this simple, inexpensive technic.

48. **Ectopic Testicle.**—Lanz reviews his experience with 51 operations on account of retained or ectopic testicle. The testicle was retained in two brothers in one family. He has never noticed any indications of peritoneal adhesions suggesting fetal peritonitis. He removed the retained testicle in a fifth of the cases as it was atrophied, or impossible to transplant. In one case, the testicle was apparently normal and active spermatogenesis was evident. In 2 cases, he found a clump of atypical glandular epithelial elements in the testicle, corroborating the assumption of a tendency to malignant disease on the part of ectopic testicles. In 8 cases of retention, he applied elastic extension. He passed a thread up through the scrotum, around the gubernaculum at the lower pole of the testicle, including the tunica albuginea, and brought the thread down and out, fastening it to the inside of the thigh with adhesive plaster or to a crossbar between the thighs, held in a plaster cast. He used an elastic band for the thread, and has been well pleased with the constantly favorable results of this elastic extension of the ectopic testicle.

Centralblatt f. Gynäkologie, Leipsic.

Last indexed page 1648.

49 (XXIX, No. 14.) Blood-Forming Organs in Pregnancy and Childbirth.—Die blutbildenden Organe während der Schwangerschaft und dem Wochenbett. F. Varaldo.

50 (No. 15.) Instrument und Methode Bossi. H. v. Bardeleben.

51 Lack of Oxygen or Carbonic-Acid Poisoning.—Sauerstoffmangel oder Kohlensäurevergiftung. A. Schücking.

52 *Myomotomie in der Schwangerschaft (pregnancy). C. H. Stratz.

53 (No. 16.) Zur Dienst'schen Eklampsie-Theorie. W. Liepmann. See ab. 83, page 1649.

54 Comparative Study of Pelves and Childbearing in Whites and Blacks.—Eine vergleichende Studie über die Becken von Weissen und Negern mit Berücksichtigung der Grösse des Kindes und ihre Beziehung zur Kindslage und zum Geburtsverlauf bei beiden Rassen. T. C. Riggs (Baltimore).

55 Fall von Endometritis post abortum bei einem 11 jährigen Mädchen (in girl of 11). Schütze (Königsberg).

52. **Myoma and Pregnancy.**—Stratz has become convinced that in by far the largest majority of cases, the myoma can be left until delivery. Myotomy during pregnancy is indicated only in the rarest cases.

Deutsche medizinische Wochenschrift.

56 (XXXI, No. 14, April 6.) *Early Diagnosis and Early Treatment of Tabes.—Bemerkungen zur Frühdiagnose und Frühbehandlung der Tabes dorsalis als einer "Aufbrauchkrankheit." Determann.

57 Simple Maneuver to Determine Position of Head in Small Pelvis.—Ein einfacher Handgriff zur Bestimmung des Tiefstandes des kindlichen Kopfes im kleinen Becken. W. Thomass.

58 *Ueber abdominelle Totalexstirpation des Uterus mit sagittaler Spaltung des Cervix-Stumpfes bei Cervix-Myom. K. Reinecke.

59 Bactericidal Action Not a Factor in Finsen Treatment.—Ueber die bakterizide Wirkung des Lichtes bei der Finsen-Behandlung. V. Klingmüller and L. Halberstaedter.

60 Changes in Walls in Suppurations in Bone Cavities.—Ueber Wandveränderungen bei Eiterungen in starrwandigen Knochenhöhlen. Gerber.

61 New Viewpoints in Bacteriology of Leprosy.—Neue Gesichtspunkte in der Leprafrage. Deycke Pasha and Reschad Bey. (Commenced in No. 13.)

62 *Prophylaxis of Infection from Communion Cup.—Uebertragung von Infektionskrankheiten bei der Abendmahlsfeier und Vorschlag zu einer Modifikation der Feier. A. Moeller.

63 Die neue sichere Epilations-Methode Kromayers und die Elektrolyse. W. Kuhn. Id. Kromayer.

56. **Early Diagnosis and Treatment of Tabes.**—Edinger recently advanced a theory that certain nervous affections are due to lack of normal repair of the nerves after functional use. His communications on the subject have been summarily reviewed in THE JOURNAL, the latest on page 994. Determann is convinced that this theory is extremely valuable as a basis for the diagnosis of incipient tabes. Treatment should aim to remove the underlying cause, generally a toxin. It should also aim to ward off not only all excessive functioning, but a large proportion of normal, ordinary functioning in order to prevent the spread of the process to the adjacent, still sound parts of the nerves. The third aim of treatment should be to regulate the nutrition of the affected nerves, and thus to bring them back to normal functioning in time. Determann has been treating tabes on these principles for some years, and has now a record of 130 cases in which the diagnosis was based on early symptoms before the classical syndrome developed. Edinger's theory supplies a scientific basis to his empiric success, which he recently described at length in a thesis (Freiburg), republished in the *Sammlung Abhandlungen a. d. Gebiete der Nerven- u. Geistes-Krankheiten*, 1904, Nos. 2 and 3. In 14 cases he was alone in thinking that the slight vague symptoms observed were the premonitory signs of tabes, but the course of the cases confirmed his diagnosis. He has treated 40 patients through several years by a combination of hygienic, physical, and dietetic measures and has had the satisfaction of keeping them in comparative health, and active members of the social or business world. As soon as the affection is suspected, the affected organ and all the parts of the body dependent on it are placed in conditions which will exclude as far as possible all functional demands on them. Nourishment must be supplied more abundantly to the affected cells. This is accomplished by a generous diet supplemented by measures to bring the nourishing fluids directly to the spot. This is done by application of stimuli to the periphery which attract the blood to the part and induce a series of reflex phenomena involving the innervation, the vasomotor processes, the distribution of the blood, and possibly also the metabolism and muscular activity. The entire habits of life should be regulated and everything avoided that tends to excess, physical overexertion, fatiguing journeys, the necessity for long standing, and irregularities of all kinds. "Catching cold" must be guarded against with extra care; the bladder should be emptied every hour or hour and a half, and very loud speaking should be avoided, as also all irritation of the gastrointestinal tract. Intercurrent diseases should be prevented and treated with exceptional care. Reclining in the open air is the best means of favorably influencing nervous affections if the circumstances are made to conform to make it an entertaining, agreeable and refreshing mode of passing the time with all disagreeables eliminated. This open air reclining seems to exert a specially favorable influence on the nitrogen metabolism, and thus directly aids the exhausted nerve cells. Several short graduated walks should be taken during the day, and hydrotherapy, carbonated baths, and other mild means of stimulation should be judiciously applied. Massage of the muscles, group by group, centripetally, will be found useful. The main point is to have the patient under supervision for two years at least, and to vary the measures and combinations to insure gentle exercise to fit the circumstances and case. Among his patients is an actor, still playing prominent rôles, who seven years ago presented symptoms

of incipient tabes and has been treated on the above principles. Four are merchants in a large city. They spare themselves all unnecessary functional demands on their nervous system, and occasionally return for a course of treatment. As examples of the early symptoms he mentions that the foot of an apparently healthy man began to swell after a long bicycle trip, and a typical tabetic arthropathy developed. Another robust man experienced difficulty in urinating and tendency to impotence after a long bicycle trip. Laryngeal crises were the first manifestations in an actor forced to strain his voice on the stage. A judge complained of difficulties in urinating and incontinence years before these symptoms were recognized as the heralds of tabes. The first symptom in another patient was a numbness in the feet after a cold footbath, and in another case, a feeling of heat in the feet after standing long in the snow. Headache, vertigo, congestion of the head, weakness of the eyes and tendency to photophobia were the first symptoms in a number of men mentally overworked.

58. **Improved Technic for Removing Myoma of the Cervix.**—The aim of Reinecke's communication is to show the great advantages offered by sagittal slitting of the stump of the cervix after removal of the body of the uterus in case of a myoma in the cervix. He describes a case in detail. There were a number of myomata, two on the cervix, and the uterus had contracted into hour-glass shape, and was held firmly in the pelvis. Owing to the impossibility of rendering the vagina aseptic on account of the presence of the myomata in the cervix, he did not wish to enter the vagina from the entrance, but easily enucleated the myomata after slitting the cervix through the abdominal incision. When the operation was concluded the posterior vaginal wall was incised for drainage, and the patient rapidly recovered.

62. **Individual Spoons to Dip in Communion Cup.**—Moeller is superintendent of the great Belzig sanatorium, and here relates bacteriologic tests of pieces of sterile cotton with which the edge of the communion cup was wiped after the communion service at the sanatorium (40 persons) and also in the city church (150 persons), also in a church in Berlin, where several hundreds had participated, and also in the city of Eupen. The wine left in the cup was also used for the tests. He mentions that scraps of bread were found in the wine. The results of the tests were positive in regard to tuberculosis in only one out of the six guinea-pigs inoculated, but many other pathogenic bacteria were cultivated. He suggests as a simple, cleanly and practical means of avoiding the transmission of infection from this source to have each communicant bring a spoon-shaped small dish with which he can dip up the wine for himself, or the clergyman can take a fresh spoon for each person from a pile on the tray. The sexton could collect and boil these spoons afterward, ready for the next service, or they could be made of paper and burnt. This would remove every hygienic objection without sacrificing the spirit of the sacrament, and even the poorest congregation can well afford the expense of these small spoons or scoops.

Deutsches Archiv f. klinische Medizin, Leipsic.

Last indexed page 1649.

64 (LXXXII, Nos. 5-6.) *Ueber letale Anämien im Greisenalter (after 60). O. Kurpjuweit.
65 *Phosphor-Vergiftung und Autolyse (phosphorus intoxication). Waldvogel.
66 *Blood Pressure, Vessel Tonus and Work of the Heart in Relation to Hydrotherapy.—Ueber Blutdruck, Gefässtonus und Herzarbeit bei Wasserbädern verschiedener Temperatur und bei kohlensäurehaltigen Soolbädern. J. Strasburger.
67 Paroxysmal Reduplication of Heart Rate.—Ueber anfallsweise auftretende Verdoppelung der Herzfrequenz. F. Lommel.
68 Zur Lehre von den Extra-Systolen. D. Gerhardt.
69 *Participation of Oxygen in Action of Fluorescent Substances.—Die Beteiligung des Sauerstoffs bei der Wirkung fluorescierender Stoffe. A. Jodlbauer and H. v. Tappeiner.
70 *Distribution of Blood Under Influence of Thermic Stimuli.—Ueber die Blutverteilung im menschlichen Körper unter dem Einfluss thermischer Reize. O. Müller.
71 Zur Frage des sogen. "Herzblocks" beim Menschen (condition due to stoppage of some of the auricular contractions at the auriculoventricular boundary). E. Finkelnburg.
72 Ueber "das absolute Sphygmogram." Sahli.
73 Ueber "durch das Tuberkulin-Fieber hervorgerufenen Eosinophilie." C. J. Fauconnet.
74 Zur kolorimetrischen Eisenbestimmung im Blute (tests for iron). A. Jolles.
75 *The Reversed Tuberculin Test.—Versuch einer neuen Serum-Diagnose der Tuberkulose. A. Brion (Strasburg).
76 Behavior of Blood Pressure in Albuminuria of Puberty.—Verhalten des Blutdruckes bei der Pubertätsalbuminurie. M. Matthes.

64. **Primary Fatal Chronic Anemia After Sixty.**—Kurpjuweit describes in detail, with the postmortem findings, 2 cases of primary, chronic anemia in men of 62 and 68. In this type the anemia is moderate in degree and is accompanied by enlargement of the spleen, slight poikilocytosis of the red corpuscles and excessive leucopenia, as low as 660, without essential marrow elements. The affection progresses to a fatal termination in about six months, with variable moderate or high fever of a continuous or intermittent type. The signs of a hemorrhagic diathesis do not appear until late, and are not severe. The bone marrow becomes completely atrophied or shows signs of acute degeneration. The blood findings are not those of pernicious anemia, especially the leucopenia. The symptoms resembled those of what has been called "aplastic anemia," but he thinks that the findings in the bone marrow were of a different nature. His statements were discussed in an editorial in THE JOURNAL, on page 1534.

65. **Phosphorus Poisoning and Autolysis.**—Waldvogel relates experiments which suggest that the essence of phosphorus poisoning is in its inducing autolytic processes in the body.

66. **Behavior of Vascular System Under Hydrotherapy.**—Strasburger epitomizes the most important results from his extensive research in the statement that hot baths make considerable demands on the heart in every direction. Cool baths exercise the heart while at the same time they spare it. This is more pronounced—in a favorable sense—in carbonated saline baths than in any plain water baths. The carbonated saline baths exert their influence on the heart itself like a transient digitalis action. The latter, however, contracts the vessels, while the other expands them. It might be expressed thus: Carbonated saline baths exercise the heart under easier and more sparing conditions. The experiments in this research were all made on healthy subjects, and the conclusions apply to these only.

69. **Oxygen and Action of Fluorescent Substances.**—A long array of experiments is reported which throw light on the phenomena of fluorescence and on the action of fluorescent substances on bacteria, etc.

70. **Distribution of Blood in Body Under Influence of Thermic Stimuli.**—Müller announces that he has demonstrated that the vessels of the periphery react to thermic stimuli exactly contrary to the way in which the vessels of the interior react. Cold contracts and heat expands the peripheral vessels, while the reverse occurs in the visceral and intracranial vessels. He has devised a means to estimate these variations in the regional vascular apparatus by what he calls "partial weighings." Four ordinary household scales with dials are placed on a long narrow table, with the dials all facing the same way. The pan is unscrewed and a piece of wood, shaped something like a coat rest, is laid on top of the scales in place of the pan, the center pressing down on the scales, the ends projecting 6 cm. beyond the edge of the table on each side. A rope is tied to this crosspiece, fastening at each end and forming a swing, with a board seat, a few inches above the floor. There are thus four of these little swings in a row below the table, and the person to be tested lies down on them, one swing board under his neck and shoulders, one under his back, one under his hips and one under his legs below the knees. The arm is further supported on another scale standing on the floor. Experiments with persons lying on these scales, thus weighing the different parts of the body at the same time, showed interesting results when the legs were sprayed with carbonic acid or hot air or heat stimuli were otherwise applied. The results were strikingly harmonious on different subjects under like conditions. He also obtained interesting results from the plethysmograph applied to the crossed leg and arm with the stimuli applied to the crossed mates.

75. **Reversed Tuberculin Test.**—Brion had been studying the reaction that follows injection of human serum in a tuberculous guinea-pig when Merieux published a communication on the subject. (THE JOURNAL, page 726.) Brion's findings were less constant than those reported by Merieux. The reaction

did not occur with any regularity. Its presence or absence probably depends on the intensity of the infection in the animal. Hence, he does not believe that this reversed tuberculin test can be relied on for diagnosis.

Mitteilungen a. d. Grenzgebieten d. Med. u. Chir., Jena.

Last indexed page 1154.

77 (XIV, No. 4.) *Elimination of Iodin and Its Relation to the Thyroid Gland.—Ueber die Ausscheidung des Jods im menschlichen Harn und ihre Beziehung zum Jodgehalt und zur Verkleinerung der Strumen. A. Kocher (Berne).

78 Traumatic Rupture of Wall of Aorta.—Ueber traum. Aortenwandrupturen mit bes. Berücksichtigung des Mechanismus ihrer Entstehung. Revenstorf (Hamburg).

79 Chronic Suppuration in the Fingers with Deposits of Calcium Carbonate.—Chronische Eiterung an den Fingern mit Ablagerung von kohlensaurem Kalk. T. Dunin (Warsaw). Two cases.

80 Ueber congenitale Brust-Muskel-Defekte. W. Wendel. One case.

81 *Absorption in Intestines.—Experimentelle Beobachtungen über die Resorption im Dünn- und Dickdarm. B. Heile (Breslau).

82 Changes in Liver with Fat Tissue Necrosis, etc.—Ueber Leberveranderungen bei multipler abdomineller Fettgewebsnekrose und Pankreatitis haemorrhagica. J. Wiesel (Vienna). Four cases.

83 *Beiträge zur Symptomatologie der Carcinose des Rumpf-Skelettes. K. Petren (Upsala).

77. **Elimination of Iodin and Its Relation to the Thyroid Gland.**—Kocher has been making extensive investigations on this subject. His tests of persons with sound thyroid glands showed that the elimination in the urine of from .5 to 1 gm. of sodium iodid, ingested fasting, showed very little variation under like conditions. When the thyroid gland was diseased, however, there were wide variations in the proportions eliminated by various subjects and also by the same person at different times. Study of these variations demonstrated that they were due to differences in the histologic structure of the struma. The thyroid gland takes up the iodin and eliminates it rapidly again under normal conditions. The elimination is very much less rapid in thyroidectomized individuals. When the elimination proceeds rapidly in a case of struma, the gland will soon be found to have shrunk in size. Sometimes when the shrinking is very pronounced more iodin will be found in the urine than had been ingested. The specific parenchyma evidently becomes broken down in these cases. In certain others less iodin is eliminated than normally, and the struma does not shrink in size. This is the rule in the colloid goiter. The physiologic activity of the thyroid in this case is reduced. Further tests revealed that goiters which reacted to the iodid, with retrogression and increased elimination of iodin, undoubtedly took up an abnormal amount of iodin and worked it over in some abnormal manner, allowing it to get into the circulation and to induce symptoms of iodism or thyroidism. The practical conclusions are to the effect that iodid treatment should be commenced as early as possible in incipient goiter, with small doses every second day. If the struma is capable of recession, an unmistakable effect will soon become manifest, and small, periodical doses will suffice to keep it reduced to its smallest possible size. It is unnecessary to give large doses in these cases, as they expose to a needless danger of iodism; that is, of partially abnormal functioning of the gland. If a struma does not show signs of retrogression under these small doses, and if it is a diffuse or nodular colloid struma, a longer and more intensive iodin treatment should be instituted. There is no risk to the patient from such treatment, as the colloid takes up the iodin, and even large amounts are scarcely able to bring the proportion in the gland to the normal figure. On the other hand, even this iodin treatment is rarely successful.

81. **Absorption in Intestines.**—Heile's experiments were made on dogs with a fistula in the lowest part of the ileum, and on dogs and men after exclusion of the large intestine. A number of tables and curves of the findings are given which establish that the small intestine absorbs albumin as well as cane and grape sugar when the amounts correspond to the body's needs for nourishment. Amounts in excess of this are not absorbed, but are passed along into the large intestine, as is also the case when there are catarrhal conditions. Some of the digestion enzymes probably pass into the large intestine with the undigested food and aid in its digestion under favorable conditions. The large intestine is incapable of absorbing unaltered albumin (egg albumin or casein). The absorption of water and of grape and cane sugar is very slight in the large intestine, much less than in the small intestine. The large intestine, however, absorbs the alkali which arrives with the fecal masses. Heile warns that in cases with an artificial anus or in which part of the intestine has been excluded the deprivation of alkali from the loss of this absorbing function of the large intestine may entail serious disturbances in metabolism.

83. **Symptomatology of Carcinosis of the Trunk.**—Petren analyzes 4 personal cases and also the literature on the subject, formulating the conclusions that carcinosis of the skeleton of the trunk is liable to follow cancer of the breast or prostate even years after its removal. The pains may be paroxysmal, with long intervals of calm, or they may be connected with movements of the trunk, or there may be merely a difficulty in moving or inability to walk. As a rule, the symptoms are restricted to the bones; that is, there are no root nor spinal symptoms.

Nordiskt Mediciniskt Arkiv, Stockholm.

Last indexed page 1156.

84 (XXXVII, Surgery, No. 3.) Myopia in Colleges in Sweden.—Studien über die Myopie in den vollständigen höheren Lehranstalten für Knaben (högre allmänna läroverk) Schwedens. F. Ask.

85 *Zur Technik der Dickdarm-Resektion (of large intestine). J. Borelius.

86 Ueber die Angiotripsie in der allgemeinen operativen Chirurgie. E. S. Perman.

87 Frühzeitige Operation der akuten Appendicitis um septischer Peritonitis oder Allgemeininfektion vorzubeugen oder solche zu begrenzen (early intervention). F. Bauer.

88 Ueber die moderne Pankreas-Chirurgie. G. Naumann.

89 (Internal Medicine, No. 3.). Ueber die biologische Bedeutung der krankhaften Erscheinungen (biologic significance of morbid manifestations). A. Vestberg.

90 Lichtbehandlung im Krankenhause St. Goran, Stockholm (experiences with phototherapy). M. Moller.

85. **Technic of Resection of Large Intestine.**—Borelius reviews his 20 cases of resection of part of the large intestine. They fail to show any superiority of the extraperitoneal method over others, or any advantages from operating in several sittings. The thickness of the walls forbids the use of the Murphy button, as a rule. Infection and death occurred in one case after side-to-side union, and pus escaped through the vagina in another. A fistula developed in one case of end-to-end union, but closed spontaneously. All the other patients recovered without mishap. The suture was end-to-end in 12, end-to-side in 1, and side-to-side in 7. The 13 patients treated without any kind of drainage all recovered, as also the 3 cases drained. In the 4 cases in which tamponing was applied one patient succumbed soon to infection, and symptoms of acute dilatation of the stomach developed in another the day after the tampon was removed. The two others made a smooth recovery. An important point in the technic is the careful ligating of the vessels in the mesocolon. This must be done for each separately. In one of his cases the vessels were ligated in a bunch. This careless technic resulted in hemorrhage later and development of a hematoma, which threatened the patient's life and delayed recovery for several weeks. The details of all his cases are given in tabulated form. The article is in German.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

CONCEPTO SANITARO DE LAS ENFERMEDADES CUARENTENABLES, por el Dr. Federico Torralbas, ex-comisionado Medico de Cuba en Mexico durante la Epidemia de Peste Bubonica, Medico del Departamento de Sanidad de la Habana, etc. Paper. Pp. 208. Habana, Cuba: Imp. De Gutierrez Y Comp. 1905.

NOTES ON X-LIGHT. By William Rollins. Cloth. Pp. nearly 600. Fully Illustrated. Published for the Author by the University Press. Cambridge, U. S. A.

ACUTE CONTAGIOUS DISEASES. By William M. Welch and Jay F. Schamberg, M.D. Illustrated with 109 Engravings and 61 Full-Page Plates. Cloth. Pp. 781. Price, $5.00. Philadelphia: Lea Bros. & Co. 1905.

EIGHTEENTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF THE STATE OF OHIO for the Year Ending Dec. 31, 1903. Cloth. Pp. 569. Springfield, Ohio: The Springfield Publishing Co. 1904.